

450 RALLY FACTORY REPLICA

ART. NO. 3214842EN





Congratulations on your decision to purchase a KTM motorcycle. You are now the owner of a state-of-the-art sports vehicle which, with appropriate care, will bring you pleasure for a long time to come.

We wish you good and safe riding at all times!

Enter the serial numbers of your vehicle below.

Vehicle identification number (p. 15)	Dealer's stamp
Engine number (🕮 p. 15)	
Key number (p. 15)	

The Owner's Manual contained the latest information for this model series at the time of publication. Slight deviations resulting from continuing development and design of the motorcycles cannot, however, be completely excluded.

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ISO 9001(12 100 6061)

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KTM Sportmotorcycle GmbH Stallhofnerstraße 3 5230 Mattighofen, Austria

This document is valid for the following models:

450 RALLY REPLICA (F9399X8)



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1.1 Symbols used

The meaning of specific symbols is described below.



Indicates an expected reaction (e.g., of a work step or a function).



Indicates an unexpected reaction (e.g., of a work step or a function).



Indicates work that requires expert knowledge and technical understanding. In the interest of your own safety, have this work performed by an authorized KTM workshop! Your motorcycle will be cared for there to the highest degree by specially trained experts using the special tools required.



Indicates a page reference (more information is provided on the specified page).



Indicates information with more details or tips.



Indicates the result of a testing step.



Indicates a voltage measurement.



Indicates a current measurement.



Indicates the end of an activity, including potential reworking.

1.2 Formats used

The typographical formats used in this document are explained below.

Proprietary name Indicates a proprietary name.

Name® Indicates a protected name.

Brand™ Indicates a brand available on the open market.

<u>Underlined terms</u> Refer to technical details of the vehicle or indicate technical terms, which

are explained in the glossary.

2.1 Use definition – intended use

KTM sport motorcycles are designed and built to withstand the normal stresses and strains of racing. The motorcycles comply with the currently valid regulations and categories of the top international motorsport organizations.



Info

The motorcycle is authorized for public road traffic in the homologated (reduced) version only. In the derestricted version, the motorcycle must be used only on closed off properties remote from public road traffic

This motorcycle is designed for use in offroad endurance competition and not primarily for use in motocross.

Some descriptions show the vehicle in a derestricted condition after preparation for racing has been completed. In the derestricted version, the motorcycle must be used only on closed off properties remote from public road traffic. Observe the specifications in the Section homologated structure () p. 12).

2.2 Safety advice

A number of safety instructions need to be followed to operate the product described safely. Therefore read this instruction and all further instructions included carefully. The safety instructions are highlighted in the text and are referred to at the relevant passages.



Info

Various information and warning labels are attached in prominent locations on the product described. Do not remove any information or warning labels. If they are missing, you or others may not recognize dangers and may therefore be injured.

2.3 Degrees of risk and symbols



Danger

Identifies a danger that will immediately and invariably lead to fatal or serious permanent injury if the appropriate measures are not taken.



Warning

Identifies a danger that is likely to lead to fatal or serious injury if the appropriate measures are not taken.



Caution

Identifies a danger that may lead to minor injuries if the appropriate measures are not taken.

Note

Identifies a danger that will lead to considerable machine and material damage if the appropriate measures are not taken.



Note

Indicates a danger that will lead to environmental damage if the appropriate measures are not taken.

2.4 Tampering warning

Tampering with the noise control system is prohibited. Federal law prohibits the following acts or the causing thereof:

- 1 The removal or rendering inoperative by any person other than for purposes of servicing, repair, or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or
- 2 the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

Among those acts presumed to constitute tampering are the acts listed below:

- 1 Removal or puncturing of the main silencers, baffles, header pipes or any other components which conduct exhaust gases.
- 2 Removal or puncturing of parts of the intake system.
- 3 Lack of proper maintenance.
- 4 Replacing moving parts of the vehicle, or parts of the exhaust system or intake system, with parts other than those specified by the manufacturer.

2.5 Safe operation



Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and others.

- Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle if you are physically or mentally impaired.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.



Warning

Danger of burns Some vehicle components become hot when the vehicle is operated.

- Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Only operate the vehicle when it is in perfect technical condition, in accordance with its intended use, and in a safe and environmentally compatible manner.

The vehicle should only be used by trained persons. An appropriate driver's license is needed to ride the vehicle on public roads.

Have malfunctions that impair safety promptly eliminated by an authorized KTM workshop.

Adhere to the information and warning labels on the vehicle.

2.6 Protective clothing



Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

- Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always wear protective clothing that is in good condition and meets the legal regulations.

In the interest of your own safety, KTM recommends that you only operate the vehicle while wearing suitable protective clothing.

2.7 Work rules

Unless specified otherwise, the ignition must be turned off during all work (models with ignition lock, models with transponder key) or the motor must be at a standstill (models without ignition lock or transponder key). Special tools are necessary for certain tasks. The tools are not a component of the vehicle, but can be ordered using the number in parentheses. Example: bearing puller (15112017000)

Unless otherwise noted, normal conditions apply to all tasks and descriptions.

Ambient temperature	20 °C (68 °F)
Ambient air pressure	1,013 mbar (14.69 psi)
Relative air humidity	60 ± 5 %

During assembly, use new parts to replace parts which cannot be reused (e.g. self-locking screws and nuts, expansion screws, seals, sealing rings, O-rings, pins, and lock washers).

In the case of certain screws, a screw adhesive (e.g. **Loctite®**) is required. Observe the manufacturer's instructions

If thread locker (e.g., **Precote®**) has already been applied to a new part, do not apply any additional thread locker. After disassembly, clean the parts that are to be reused and check them for damage and wear. Change damaged or worn parts.

After completing a repair or service work, check the operating safety of the vehicle.

2.8 Environment

If you use your motorcycle responsibly, you can ensure that problems and conflicts do not occur. To protect the future of the motorcycle sport, make sure that you use your motorcycle legally, be environmentally aware, and respect the rights of others.

When disposing of used oil, other operating and auxiliary fluids, and used components, comply with the laws and regulations of the respective country.

Because motorcycles are not subject to the EU regulations governing the disposal of used vehicles, there are no legal regulations that pertain to the disposal of an end-of-life motorcycle. Your authorized KTM dealer will be glad to assist you.

2.9 Owner's Manual

Read this owner's manual carefully and completely before making your first trip. The Owner's Manual contains useful information and many tips on how to operate, handle, and service your motorcycle. This is the only way to find out how best to customize the vehicle for your own use and how you can protect yourself from injury.



qiT

Store the Owner's Manual on your terminal device, for example, so that you can read it whenever you need to.

If you would like to know more about the vehicle or have questions on the material you read, please contact an authorized KTM dealer.

The Owner's Manual is an important component of the vehicle. If the vehicle is sold, the Owner's Manual must be downloaded again by the new owner.

The Owner's Manual can be downloaded several times using the QR code or the link on the delivery certificate.

2 SAFETY ADVICE

The Owner's Manual is also available for downlo	pad from your authorized KTM dealer and on the KTM website. A
printed copy can also be ordered from your auth International KTM Website: KTM.COM	norized KTW dealer.

3.1 Manufacturer warranty, implied warranty

The work prescribed in the service schedule must only be carried out in an authorized KTM workshop and confirmed in the **KTM Dealer.net**, as otherwise all warranty claims will be void. Damage or secondary damage caused by tampering with and/or conversions on the vehicle are not covered by the manufacturer warranty.

3.2 Fuel, auxiliary substances



Note

Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.

Use fuels and auxiliary substances in accordance with the Owner's Manual and specification.

3.3 Spare parts, accessories

For your own safety, only use spare parts and accessory products that are approved and/or recommended by KTM and have them installed by an authorized KTM workshop. KTM accepts no liability for other products and any resulting damage or loss.

Certain spare parts and accessory products are specified in parentheses in the descriptions. Your authorized KTM dealer will be glad to advise you.

The latest news **KTM PowerParts** on your vehicle can be found on the KTM website.

International KTM Website: KTM.COM

3.4 Service

A prerequisite for perfect operation and prevention of premature wear is that the service, care, and tuning work on the engine and chassis is properly carried out as described in the Owner's Manual. An incorrect suspension setting can lead to damage and breakage of chassis components.

Use of the vehicle under difficult conditions, such as on sand or on wet, dusty and muddy surfaces, can result in significantly increased wear of components, such as the drive train, brake system, air filter or suspension components. For this reason, it may be necessary to inspect or replace parts before the next scheduled service.

It is imperative that you adhere to the stipulated run-in times and service intervals. If you observe these exactly, you will ensure a much longer service life for your motorcycle.

The relevant mileage or time interval is whichever occurs first.

3.5 Figures

The figures contained in the manual may depict special equipment.

In the interest of clarity, some components may be shown disassembled or may not be shown at all. It is not always necessary to disassemble the component to perform the activity in question. Please follow the instructions in the text.

Some descriptions show the vehicle in a derestricted condition after preparation for racing has been completed. In the derestricted version, the motorcycle must be used only on closed off properties remote from public road traffic. Observe the specifications in the Section homologated structure () p. 12).

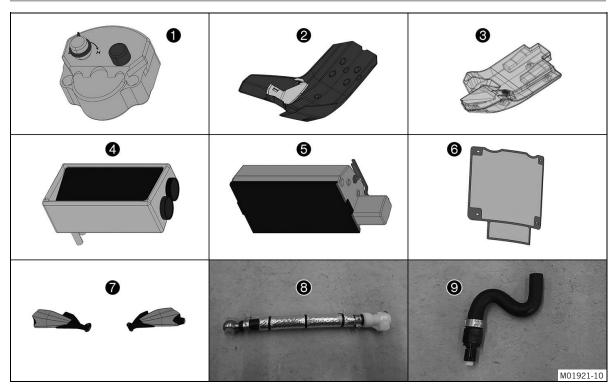
3.6 Customer service

Your authorized KTM dealer will be happy to answer any questions you may have on your vehicle and KTM.

A list of authorized KTM dealers can be found on the KTM website.

International KTM Website: KTM.COM

3.7 Homologated structure



In the homologated (restricted) condition, the following parts must not be fitted:

- Steering damper (585.12.050.xxx)
- Engine guard **2** (767.12.099.xxx) with water tank **3** (767.03.090.xxx)
- Trip master **4** (767.12.085.xxx)
- Road book **6** (767.12.098.xxx)
- Radiator guard **6** (767.35.034.xxx)
- Hand guard both sides (780.02.079.xxx)
- Fuel line **8** for right front tank
- Fuel line **9** for rear tank
- Steel sprocket (not shown, replace with aluminum sprocket)

4.1 View of vehicle, front left

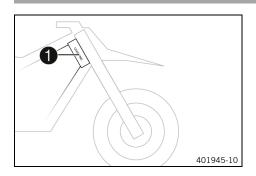


- 1 Clutch lever (p. 17)
- 2 Seat release strap
- **3** Side stand (p. 23)
- 4 Shift lever (p. 23)

4.2 View of vehicle, rear right side

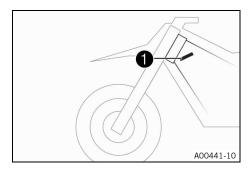


- 1 Fuel pump switch (p. 19)
- 2 Stop button (p. 17)
- 2 Light switch (p. 18)
- 2 Turn signal switch (p. 18)
- 2 Horn button (p. 18)
- 3 Start button (p. 18)
- 4 Combination instrument
- **5** Throttle grip (p. 17)
- 6 Foot brake lever (p. 23)



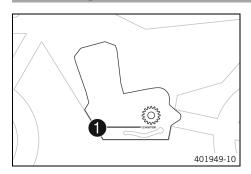
The vehicle identification number **1** is embossed in the steering head on the right.

5.2 Type label



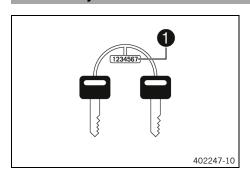
The type label 1 is located on the steering head on the left.

5.3 Engine number



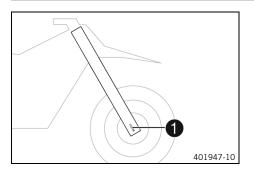
The engine number **1** is stamped on the left side of the engine under the engine sprocket.

5.4 Key number



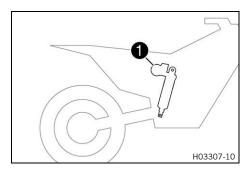
The key number **1** for the steering lock is stamped onto the key connector.

5.5 Fork part number



The fork part number is stamped on the inner side of the fork stub.

5.6 Shock absorber article number



The shock absorber article number **1** is located on the left side of the shock absorber compensating tank.

6.1 Clutch lever



The clutch lever **1** is fitted on the left side of the handlebar. The clutch is hydraulically operated and self-adjusting.

6.2 Hand brake lever



The hand brake lever **1** is fitted on the right side of the handle-bar

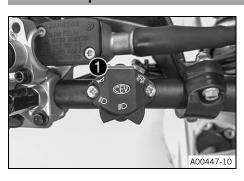
The hand brake lever operates the front brake.

6.3 Throttle grip



The throttle grip 1 is fitted on the right side of the handlebar.

6.4 Stop button

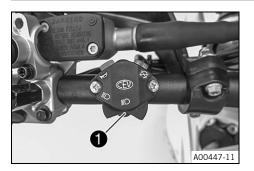


The stop button **1** is fitted on the left side of the handlebar. **Possible states**

- The stop button \boxtimes is in the basic position In this position, the ignition circuit is closed and the engine can be started.
- Stop button

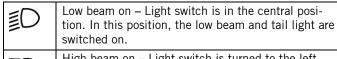
 pressed In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.

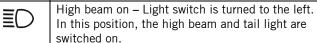
6.5 Light switch



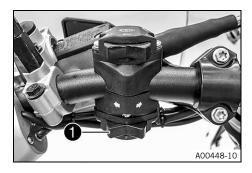
Light switch 1 is fitted on the left side of the handlebar.

Possible states





6.6 Turn signal switch

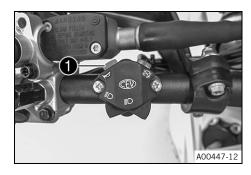


The turn signal switch **1** is fitted on the left side of the handle-bar

Possible states

	Turn signal off – Turn signal switch is in the central position.
+	Turn signal, left, on – Turn signal switch turned to the left.
•	Turn signal, right, on – Turn signal switch turned to the right.

6.7 Horn button



Horn button **1** is fitted on the left side of the handlebar.

Possible states

- The horn button **>** is in the basic position
- The horn button ₩ is pressed The horn is operated in this position.

6.8 Start button



Start button 1 is fitted on the right side of the handlebar.

Possible states

- The start button ③ is in the basic position
- The start button ③ is pressed In this position, the starter motor is actuated.

6.9 Emergency OFF switch



The emergency OFF switch **1** is fitted on the right side of the handlebar.

Possible states



Ignition off – In this position, the ignition circuit is interrupted, a running engine stops, and a non-running engine will not start.



Ignition on – In this position, the ignition circuit is closed and the engine can be started.

6.10 Overview of indicator lights



Possible states



Left fuel level warning lamp lights up orange – The fuel level of the two front fuel tanks has reached the reserve mark



The oil pressure warning lamp lights up red – The oil pressure is too low. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.



Turn signal indicator lamp flashes green – The turn signal is switched on.



Right fuel level warning lamp lights up orange – The fuel level of the rear fuel tank has reached the reserve mark



The coolant temperature warning lamp lights up red – The coolant temperature is too high. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.



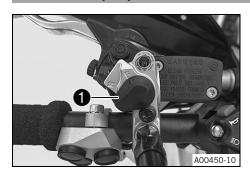
The high beam indicator lamp lights up blue – The high beam is switched on.



A00402-10

Malfunction indicator lamp lights up/flashes yellow – The <u>OBD</u> has detected a malfunction in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.

6.11 Fuel pump switch



The fuel pump switch
is fitted on the left side of the handle-bar.

Possible states

F

FRONT – In this position, the fuel pump of the two front fuel tanks is active. Only the front fuel tanks empty out.



REAR – In this position, the fuel pump of the rear fuel tank is active. Only the rear tank empties out.

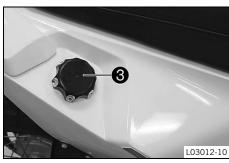
The fuel pump switch controls the fuel pumps of both front fuel tanks and the rear fuel tank.

6.12 Fuel tank



This model has three separate fuel tanks controlled by a fuel pump switch. Two fuel tanks are located in front of the seat and one fuel tank is located beneath the seat.

The right fuel tank is filled via fuel tank filler cap **1** and the left fuel tank is filled via fuel tank filler cap **2**.



The rear fuel tank is filled via fuel tank filler cap **3**.

6.13 Opening fuel tank filler caps



Danger

Fire hazard Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is harmful to health.

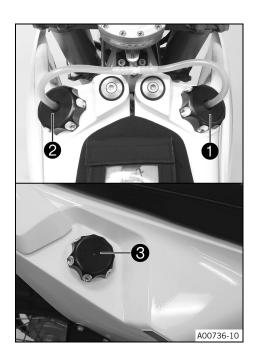
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.



Note

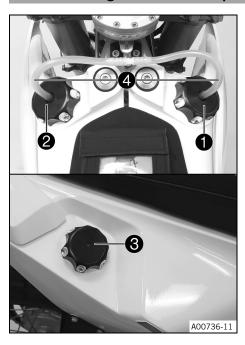
Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.



Turn fuel tank filler caps **1**, **2** and **3** counterclockwise and lift off.

6.14 Closing fuel tank filler caps



- Mount fuel tank filler caps **1**, **2**, and **3** and turn clockwise until the fuel tanks are tightly closed.

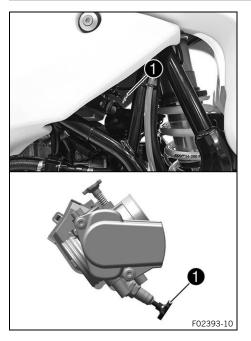


Info

Route fuel tank breather hoses 4 without kinks.

4

6.15 Cold start button



The cold start button **1** is fitted to the bottom of the throttle valve body.

The electronic fuel injection system extends the injection time if the engine is cold and the ambient temperature is low. To help the engine burn the increased fuel quantity, it must be supplied with additional oxygen by pushing the cold start button.

After briefly opening up the throttle and then releasing the throttle grip again, or turning the throttle grip towards the front, the cold start button returns to its original position.



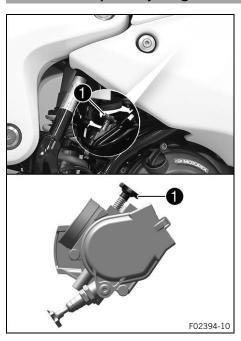
Info

Check whether the cold start button has returned to its basic position.

Possible states

- The cold start button is activated The cold start button is pushed in all the way.
- The cold start button is deactivated The cold start button is in its basic position.

6.16 Idle speed adjusting screw



The idle setting of the throttle valve body substantially influences the vehicle's starting behavior, a stable idle speed, and the vehicle's response when the throttle is opened.

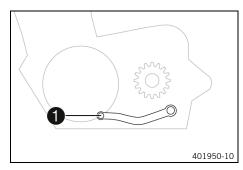
An engine with a correctly set idle speed is easier to start than an engine with the idle speed set incorrectly.

The idle speed is adjusted using the idle speed adjusting screw **1**.

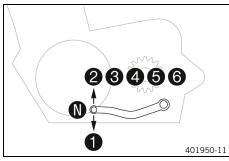
Increase the idle speed by turning the idle speed adjusting screw clockwise

Decrease the idle speed by turning the idle speed adjusting screw counterclockwise.

6.17 Shift lever



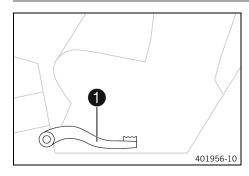
The shift lever 1 is mounted on the left side of the engine.



The gear positions can be seen in the photograph.

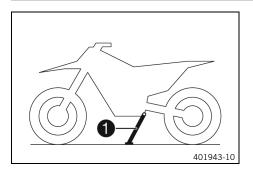
The neutral or idle position is between the first and second gears.

6.18 Foot brake lever



Foot brake lever **1** is located in front of the right footrest. The rear brake is engaged with the foot brake lever.

6.19 Side stand



The side stand 1 is located on the left of the vehicle.

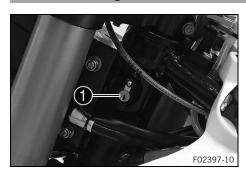
The side stand is used for parking the motorcycle.



Info

When you are riding, side stand 1 must be folded up and secured with rubber strap 2.

6.20 Steering lock



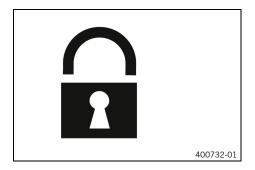
Steering lock 1 is fitted on the left side of the steering head. The steering lock is used to lock the steering. Steering, and therefore riding, is no longer possible.

6.21 Locking the steering

Note

Danger of damage The parked vehicle can roll away or fall over.

- Park the vehicle on a firm and level surface.



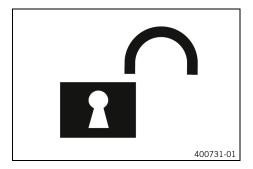
- Park the vehicle.
- Turn handlebar as far as possible to the right.
- Insert the key for the steering lock into the steering lock, turn it to the left, press it in, and turn it to the right. Pull out the key for the steering lock.
 - Steering is no longer possible.



nfo

Never leave the key for the steering lock in the steering lock.

6.22 Unlocking the steering



- Insert the key for the steering lock into the steering lock, turn it to the left, pull it out, and turn it to the right. Pull out the key for the steering lock.
 - ✓ The handlebar can now be moved again.

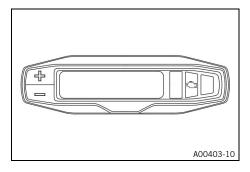


Info

Never leave the key for the steering lock in the steering lock.

•

7.1 Combination instrument overview



- Press the button # to control different functions.



Info

When the vehicle is delivered, only the **SPEED/H** and **SPEED/ODO** display modes are activated.

7.2 Activation and test



Activating combination instrument

The combination instrument is activated when one of the buttons is pressed or an impulse comes from the wheel speed sensor.

Display test

To enable you to check that the display is functioning properly, all display segments light up briefly.



WS (wheel size)

After the display function check, the wheel circumference **WS** is displayed briefly.



Info

The number 2205 equals the circumference of the 21" front wheel with standard tires.

The display then changes to the last selected mode.

7.3 Setting kilometers or miles

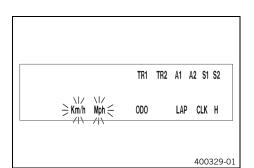


Info

If you change the unit, the value **0D0** is retained and converted accordingly.

400314-01

The values TR1, TR2, A1, A2 and S1 are cleared when the unit of measure is changed.



Condition

The motorcycle is stationary.

- Press the button

 for 2–3 seconds.
 - The Setup menu is displayed and the active functions are shown.
- Repeatedly press the button # briefly until Km/h/Mph flashes.

Adjusting the Km/h

Press the button +.

Adjusting the Mph

Press the button =.

- Wait 3–5 seconds
 - ✓ The settings are stored.



Info

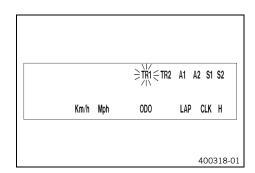
If no button is actuated for 10-12 seconds or there is no signal from the wheel speed sensor, then the settings are automatically stored and the Setup menu is closed.

7.4 Adjusting combination instrument function



Info

When the vehicle is delivered, only the SPEED/H and SPEED/ODO display modes are activated.



Condition

The motorcycle is stationary.

- Repeatedly press the button

 briefly until
 appears at the bottom right of the display.
- Press the button

 for 2–3 seconds.
 - The Setup menu is displayed and the active functions are shown.



Info

If no button is pressed for 10-12 seconds, the settings are automatically stored.

If no button is pressed for 20 seconds, or if no impulse comes from the wheel speed sensor, the settings are automatically saved and the Setup menu is closed.

- - ✓ The selected function flashes.

Activating the function

- Press the button +.
 - The symbol continues to appear in the display and the next function appears.

Deactivating a function

- Press the button =.
 - ✓ The symbol disappears in the display and the next function appears.

4

7.5 Setting clock

Condition

The motorcycle is stationary.



- Repeatedly press the button

 briefly until CLK appears at the bottom right of the display.
- Press the button

 for 2–3 seconds.
 - ✓ The hour display flashes.
- Wait 3–5 seconds
 - ✓ The next segment of the display flashes and can be set.



Info

The seconds can only be set to zero.

If no button is actuated for 15-20 seconds or there is no signal from the wheel speed sensor, then the settings are automatically stored and the Setup menu is closed.

7.6 Viewing the lap time



LAP

Info

This function can only be opened if lap times have actually been timed.

400321-01

Condition

The motorcycle is stationary.

- Repeatedly press the button

 briefly until LAP appears at the bottom right of the display.
- Briefly press the button ±.
 - ✓ LAP 1 appears on the left side of the display.
- The laps 1–10 can be viewed with the button ■.
- Press and hold the button

 for 3–5 seconds to clear the lap times.
- Briefly press the button #.
 - ✓ Next display mode



Info

When an impulse is received from the wheel speed sensor, the left side of the display changes back to the **SPEED** mode.

_

7.7 Display mode SPEED (speed)



The current speed is displayed in the **SPEED** display mode. The current speed can be displayed in **Km/h** or **Mph**.



Info

Make the setting according to the country.

When an impulse comes from the front wheel, the left side of the display changes to the **SPEED** mode and the current speed is shown.

7.8 Display mode SPEED/H (operating hours)



Condition

- The motorcycle is stationary.

In display mode ${\bf H}$, the service hours of the motor are displayed. The service hour counter stores the total traveling time.



Info

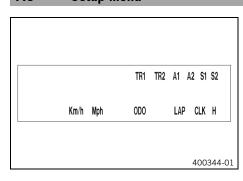
The service hour counter is necessary for ensuring that service work is carried out at the right intervals.

If the combination instrument is in ${\bf H}$ display mode when starting off, it automatically changes to the **0D0** display mode.

The **H** display mode is suppressed during the journey.

Press the button # for 2–3 seconds.	The display changes to the setup menu for the combination instrument functions.
Briefly press the button +.	Next display mode
Press the button for 2–3 seconds.	No function
Briefly press the button .	No function

7.9 Setup menu



Condition

- The motorcycle is stationary.
- Press the button

 for 2–3 seconds.

The Setup menu displays the active functions.

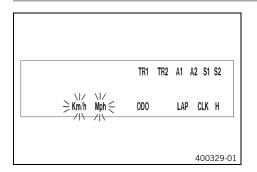
Info

Repeatedly press the button \blacksquare briefly until the desired function is reached.

If no button is pressed for 20 seconds, the settings are automatically stored.

Briefly press the button +.	Activates the flashing display and changes to the next display
Press the button ton for 2–3 seconds.	No function
Briefly press the button .	Deactivates the flashing display and changes to the next display
Press the button for 2–3 seconds.	No function
Wait 3–5 seconds	Changes to the next display without changes
Wait 10-12 seconds	Setup menu starts, stores the settings, and changes to H or ODO .

7.10 Adjusting the unit of measurement



Condition

- The motorcycle is stationary.
- Repeatedly press the button
 ■ briefly until H appears at the bottom right of the display.
- Press the button

 for 2–3 seconds.



Info

If no button is pressed for 5 seconds, the settings are automatically stored.

Briefly press the button ±.	Starts selection, activates Km/h display
Press the but- ton for 2–3 seconds.	No function
Briefly press the button .	Activates Mph display
Press the button ☐ for 2–3 seconds.	No function
Wait 3–5 seconds	Changes to the next display, changes from selection to the Setup menu
Wait 10-12 seconds	Stores and closes the Setup menu

7.11 Display mode SPEED/CLK (time)



The time is shown in display mode **CLK**.

Press the button # for 2–3 seconds.	The display changes to the Setup menu of the clock.
Briefly press the button +.	Next display mode
Press the button ☐ for 2–3 seconds.	No function
Briefly press the button .	No function

7.12 Setting the clock



Condition

- The motorcycle is stationary.
- Press the button

 for 2–3 seconds.

Press the but- ton for 2–3 seconds.	Increases the value
Briefly press the button +.	Increases the value
Press the but- ton ☐ for 2–3 seconds.	Reduces the value
Briefly press the button	Reduces the value
Wait 3–5 seconds	Changes to the next value
Wait 10-12 seconds	Leaving the SETUP menu

7.13 Display mode SPEED/LAP (lap time)



In the $\ensuremath{\textbf{LAP}}$ display mode, up to 10 lap times can be timed with the stop watch.



Info

If the lap time continues running after the button \blacksquare is pressed, 9 memory locations are occupied. Lap 10 must be timed using the button \blacksquare .

Press the but-	The stop watch and the lap time are reset.
ton \pm for 2–3	
seconds.	

Briefly press the button +.	Next display mode
Press the button for 2–3 seconds.	Stops the clock.
Briefly press the button —.	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.

7.14 Viewing the lap time



Condition

- The motorcycle is stationary.
- Briefly press the button ±.

Press the button # for 2–3 seconds.	The stop watch and the lap time are reset.
Briefly press the button +.	Select a lap from 1–10
Press the button ☐ for 2–3 seconds.	No function
Briefly press the button	View the next lap time.

7.15 Display mode SPEED/ODO (odometer)



The total traveled distance is shown in display mode **ODO**.

Press the button + for 2-3 seconds.	No function
Briefly press the button +.	Next display mode
Press the button ☐ for 2–3 seconds.	No function
Briefly press the button	No function

7.16 Display mode SPEED/TR1 (trip master 1)



TR1 (trip master 1) runs constantly and counts up to 999.9. You can use it to measure trips or the distance between refueling stops

TR1 is coupled with **A1** (average speed 1) and **S1** (stop watch 1).



Info

If 999.9 is exceeded, the values of TR1, A1 and S1 are automatically reset to 0.0.

Press the button # for 2–3 seconds.	Displays of TR1, A1 and S1 are reset to 0.0.
Briefly press the button +.	Next display mode
Press the button for 2–3 seconds.	No function
Briefly press the button .	No function

7.17 Display mode SPEED/TR2 (trip master 2)



TR2 (trip master 2) runs constantly and counts up to 999.9.

	s the but- H for 2–3 nds.	Clears the values TR2 and A2.
	ly press outton +.	Next display mode
	s the but- for 2–3 nds.	Reduces value of TR2 .
	fly press outton ■.	Reduces value of TR2.

7.18 Setting TR2 (trip master 2)



Condition

- The motorcycle is stationary.
- Repeatedly press the button

 briefly until TR2 appears at the top right of the display.

The displayed value can be set manually with the button \blacksquare and the button \blacksquare . This is a very practical function when riding using the road book.

Info

The **TR2** value can also be corrected manually during the journey with the button

and the button

if 999.9 is exceeded, the value of **TR2** is automatically reset to 0.0.

Press the button \pm for 2–3 seconds.	Increases value of TR2.
Briefly press the button +.	Increases value of TR2.
Press the button ≡ for 2–3 seconds.	Reduces value of TR2 .
Briefly press the button	Reduces value of TR2 .
Wait 10-12 seconds	Saves and closes the Setup menu

7.19 Display mode SPEED/A1 (average speed 1)

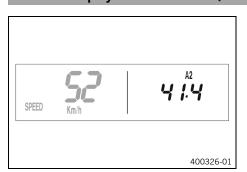


A1 (average speed 1) shows the average speed calculated using **TR1** (trip master 1) and **S1** (stop watch 1).

The calculation of this value is activated by the first impulse of the wheel speed sensor and ends 3 seconds after the last impulse.

Press the button # for 2–3 seconds.	Displays of TR1, A1 and S1 are reset to 0.0.
Briefly press the button +.	Next display mode
Press the button for 2–3 seconds.	No function
Briefly press the button .	No function

7.20 Display mode SPEED/A2 (average speed 2)



A2 (average speed 2) shows the average speed on the basis of the current speed if the stop watch **S2** (stop watch 2) is running.



Info

The displayed value can differ from the actual average speed if **\$2** was not stopped after the ride.

Briefly press the button +.	Next display mode
Press the button # for 2–3 seconds.	No function

Press the button ≡ for 2–3 seconds.	No function
Briefly press the button =.	No function

7.21 Display mode SPEED/S1 (stop watch 1)



- ${\bf S1}$ (Stop watch 1) shows the riding time based on ${\bf TR1}$ and continues running as soon as an impulse arrives from the wheel speed sensor.

The calculation of this value starts with the first impulse from the wheel speed sensor and ends 3 seconds after the last impulse.

Press the button # for 2–3 seconds.	Displays of TR1, A1 and S1 are reset to 0.0.
Briefly press the button +.	Next display mode
Press the but- ton ☐ for 2–3 seconds.	No function
Briefly press the button =.	No function

7.22 Display mode SPEED/S2 (stop watch 2)



- Repeatedly press the button # briefly until \$2 appears at the top right of the display.
- **\$2** (Stop watch 2) is a manual stop watch.

If **\$2** is running in the background, the display **\$2** flashes.

Press the button # for 2–3 seconds.	The displays of S2 and A2 are set to 0,0.
Briefly press the button +.	Next display mode
Press the button = for 2-3 seconds.	No function
Briefly press the button .	Starts or stops \$2 .

7.23 **Table of functions**

Display	Press the button # for 2–3 seconds.	Briefly press the button ₩.	Press the button — for 2–3 seconds.	Briefly press the button ■.	Wait 3–5 seconds	Wait 10–12 seconds
Display mode SPEED/H (oper- ating hours)	The display changes to the setup menu for the combination instrument functions.	Next display mode	No function	No function		
Setup menu	No function	Activates the flashing display and changes to the next dis- play	No function	Deactivates the flashing display and changes to the next dis- play	Changes to the next dis- play without changes	Setup menu starts, stores the settings, and changes to H or ODO .
Adjusting the unit of measurement	No function	Starts selection, activates Km/h display	No function	Activates Mph display	Changes to the next dis- play, changes from selec- tion to the Setup menu	Stores and closes the Setup menu
Display mode SPEED/CLK (time)	The display changes to the Setup menu of the clock.	Next display mode	No function	No function		
Setting the clock	Increases the value	Increases the value	Reduces the value	Reduces the value	Changes to the next value	Leaving the SETUP menu
Display mode SPEED/LAP (lap time)	The stop watch and the lap time are reset.	Next display mode	Stops the clock.	Starts the stop watch or stop the current lap time measurement, stores it and the stop watch starts the next lap.		
Viewing the lap time	The stop watch and the lap time are reset.	Select a lap from 1–10	No function	View the next lap time.		
Display mode SPEED/0D0 (odometer)	No function	Next display mode	No function	No function		
Display mode SPEED/TR1 (trip master 1)	Displays of TR1, A1 and S1 are reset to 0.0.	Next display mode	No function	No function		
Display mode SPEED/TR2 (trip master 2)	Clears the values TR2 and A2.	Next display mode	Reduces value of TR2 .	Reduces value of TR2 .		

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Display	Press the button ∓ for 2–3 seconds.	Briefly press the button ₩.	Press the button = for 2–3 seconds.	Briefly press the button —.	Wait 3–5 seconds	Wait 10–12 seconds
Setting TR2 (trip master 2)	Increases value of TR2 .	Increases value of TR2.	Reduces value of TR2 .	Reduces value of TR2 .		Saves and closes the Setup menu
Display mode SPEED/A1 (average speed 1)	Displays of TR1, A1 and S1 are reset to 0.0.	Next display mode	No function	No function		
Display mode SPEED/A2 (average speed 2)	No function	Next display mode	No function	No function		
Display mode SPEED/S1 (stop watch 1)	Displays of TR1, A1 and S1 are reset to 0.0.	Next display mode	No function	No function		
Display mode SPEED/S2 (stop watch 2)	The displays of S2 and A2 are set to 0,0.	Next display mode	No function	Starts or stops \$2 .		

7.24 Table of conditions and menu activation

Display	The motorcycle is stationary.	Menu can be acti- vated
Display mode SPEED/H (operating hours)	•	
Setup menu	•	
Adjusting the unit of measurement	•	
Setting the clock	•	
Display mode SPEED/LAP (lap time)		•
Viewing the lap time	•	
Display mode SPEED/TR1 (trip master 1)		•
Display mode SPEED/TR2 (trip master 2)		•
Setting TR2 (trip master 2)	•	
Display mode SPEED/A1 (average speed 1)		•
Display mode SPEED/A2 (average speed 2)		•
Display mode SPEED/S1 (stop watch 1)		•
Display mode SPEED/S2 (stop watch 2)		•

8.1 Advice on preparing for first use



Danger

Danger of accidents A rider who is not fit to ride poses a danger to him or herself and others.

- Do not operate the vehicle if you are not fit to ride due to alcohol, drugs or medication.
- Do not operate the vehicle if you are physically or mentally impaired.



Warning

Risk of injury Missing or poor protective clothing presents an increased safety risk.

- Wear appropriate protective clothing such as helmet, boots, gloves as well as trousers and a jacket with protectors on all rides.
- Always wear protective clothing that is in good condition and meets the legal regulations.



Warning

Danger of crashing Different tire tread patterns on the front and rear wheel impair the handling characteristic.

Different tire tread patterns can make the vehicle significantly more difficult to control.

- Make sure that only tires with a similar tire tread pattern are fitted to the front and rear wheel.



Warning

Danger of accidents An unadapted riding style impairs the handling characteristic.

Adapt your riding speed to the road conditions and your riding ability.



Warning

Danger of accidents The vehicle is not designed to carry passengers.

Do not ride with a passenger.



Warning

Danger of accidents The brake system fails in the event of overheating.

If the foot brake lever is not released, the brake linings drag continuously.

Take your foot off the foot brake lever if you do not want to brake.



Warning

Danger of accidents Total weight and axle loads influence the handling characteristic.

- Do not exceed the maximum permissible overall weight or the axle loads.



Warning

Risk of injury People who act without authorization may not be familiar with the vehicle.

- Do not leave the vehicle unattended if the engine is running.
- Protect the vehicle against access by unauthorized persons.



Info

When using your motorcycle, remember that others may feel disturbed by excessive noise.

- Make sure that the pre-sales inspection work has been carried out by an authorized KTM workshop.
- ✓ You will receive a delivery certificate when the vehicle is handed over.
- Before riding for the first time, read the entire Owner's Manual carefully.
- Get to know the controls.
- Adjust basic position of the clutch lever. (p. 84)

- 8
- Adjust the free travel of the foot brake lever. ♣ (💷 p. 96)
- Adjust the basic position of the shift lever. ◄ (□ p. 121)
- Get used to the handling characteristic of the motorcycle on a suitable terrain before undertaking a more challenging trip.



Info

When offroad, it is recommended that you are accompanied by another person on another vehicle so that you can help each other.

- Try also to ride as slowly as possible and in a standing position to get a better feel for the motorcycle.
- Do not make any off-road trips that exceed your ability and experience.
- Hold the handlebar firmly with both hands and keep your feet on the footrests when riding.
- If you carry luggage, make sure you secure it firmly as close as possible to the center of the vehicle and ensure even weight distribution between the front and rear wheels.



Info

Motorcycles react sensitively to any changes of weight distribution.

Do not exceed the maximum permissible weight and the maximum permissible axle loads.
 Guideline

Maximum permissible overall weight	335 kg (739 lb.)
Maximum permissible front axle load	161.5 kg (356 lb.)
Maximum permissible rear axle load	173.5 kg (382.5 lb.)

Run in the engine. (
 p. 38)

8.2 Running in the engine

During the running-in phase, do not exceed the specified engine speed and engine performance.
 Guideline

Maximum engine speed					
During the first operating hour 7,000 rpm					
Maximum engine performance					
During the first 3 operating hours ≤ 75 %					

Avoid fully opening the throttle!

9.1 Checks and maintenance when preparing for use



Info

Before every trip, check the condition of the vehicle and ensure that it is safe to operate. The vehicle must be in perfect technical condition when used.

- Check the engine oil level. (p. 122)
- Check the electrical system.
- Check front brake fluid level. (
 p. 91)
- Check rear brake fluid level. (
 p. 96)

- Check that the brake system is functioning properly.

- Check tire condition. (
 p. 106)
- Check tire pressure. (
 p. 107)
- Check the spoke tension. (p. 108)
- Clean the dust boots of the fork legs. (p. 57)
- Bleed the fork legs. (
 p. 56)
- Check the air filter.
- Check the fuel filter.
- Check the settings of all controls and ensure that they can be operated smoothly.
- Check all screws, nuts, and hose clamps regularly for tightness.
- Check the fuel reserves.

9.2 Starting



Danger

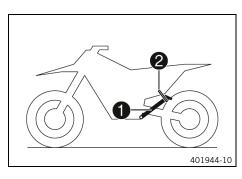
Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.

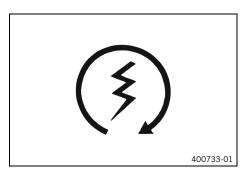
Note

Engine damage High revving speed with a cold engine negatively impacts the lifespan of the engine.

Always run the engine warm at a low speed.



- Take the motorcycle off side stand 1 and secure the side stand with rubber strap 2.
- Shift transmission into neutral.



Condition

Ambient temperature: < 20 °C (< 68 °F)

- Push cold start button in all the way.
- Press the start button.



Info

Press the start button for a maximum of 5 seconds. Wait for a least 5 seconds before trying again. At temperatures below $15\,^{\circ}\text{C}$ (60 °F), several attempts at starting may be necessary to warm-up the lithium-ion battery and thereby increase the starting power. When starting, the **FI** warning lamp lights up briefly as a function check.

_

9.3 Starting off



Info

When you are riding, the side stand must be folded up and secured with the rubber strap.

 Pull the clutch lever, shift into first gear, release the clutch lever slowly and at the same time open the throttle carefully.

9.4 Shifting, riding



Warning

Danger of accidents If you change down at high engine speed, the rear wheel blocks and the engine races.

Do not change into a low gear at high engine speed.



Info

If unusual noises occur while riding, stop immediately, switch off the engine and contact an authorized KTM workshop.

First gear is used for starting off and for steep inclines.

- Shift into a higher gear when conditions allow (incline, road situation, etc.). To do so, release the throttle
 while simultaneously pulling the clutch lever, shift into the next gear, release the clutch lever and open the
 throttle.
- After reaching maximum speed by fully opening the throttle grip, turn the throttle back so it is ¾ open. This will barely reduce the speed, but fuel consumption will be considerably lower.
- Always open the throttle only as much as the engine can handle abrupt throttle opening increases fuel consumption.
- To shift down, apply the brakes and close the throttle at the same time.
- Pull the clutch lever and shift into a lower gear, release the clutch lever slowly, and either open the throttle or shift again.
- Switch off the engine if running at idle speed or stationary for a long time.
 Guideline

≥ 2 min

Avoid frequent and longer slipping of the clutch. This heats the engine oil, the engine, and the cooling system.

Ride at a low engine speed instead of at a high engine speed with a slipping clutch.

9.5 Braking



Warning

Danger of accidents Excessively forceful application of the brakes blocks the wheels.

Adjust application of the brakes to the respective riding situation and riding surface conditions.



Warning

Danger of accidents A spongy pressure point on the front or rear brake reduces braking efficiency.

 Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Moisture and dirt impair the brake system.

- Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.
- On sandy, wet, or slippery surfaces, use the rear brake.
- Always finish braking before you go into a bend. Change down to a lower gear appropriate to your road speed.
- Use the braking effect of the engine on long downhill stretches. Change down one or two gears, but do not
 over-rev the engine. You will have to apply the brakes far less frequently as a result and the brake system will
 not overheat.

9.6 Stopping, parking



Warning

Risk of injury People who act without authorization may not be familiar with the vehicle.

- Do not leave the vehicle unattended if the engine is running.
- Protect the vehicle against access by unauthorized persons.



Warning

Danger of burns Some vehicle components become hot when the vehicle is operated.

- Do not touch any parts such as the exhaust system, radiator, engine, damper, or brake system before the vehicle parts have cooled down.
- Let the vehicle parts cool down before you perform any work on the vehicle.

Note

Material damage The vehicle may be damaged by incorrect procedure when parking.

Significant damage may be caused if the vehicle rolls away or falls over.

The components for parking the vehicle are designed only for the weight of the vehicle.

- Park the vehicle on a firm and level surface.
- Ensure that nobody sits on the vehicle when the vehicle is parked on a stand.

Note

Fire hazard Hot vehicle components pose a fire hazard and explosion risk.

- Do not park the vehicle near to materials which are highly flammable or explosive.
- Allow the vehicle to cool down before covering it.
- Apply the brakes on the motorcycle.

- Shift transmission into neutral.
- Press and hold the stop button \boxtimes while the engine is idling until the engine stops.
- Park the motorcycle on firm ground.

9.7 **Transporting**

Note

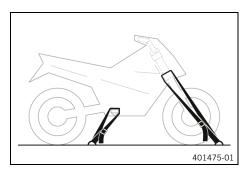
Danger of damage The parked vehicle can roll away or fall over.

Park the vehicle on a firm and level surface.

Note

Fire hazard Hot vehicle components pose a fire hazard and explosion risk.

- Do not park the vehicle near to materials which are highly flammable or explosive.
- Allow the vehicle to cool down before covering it.



- Switch off the engine.
- Use tension belts or other suitable devices to secure the motorcycle against falling over or rolling away.

9.8 Refueling



Danger

Fire hazard Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is harmful to health.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.

Note

Material damage Inadequate fuel quality causes the fuel filter to quickly become clogged.

In some countries and regions, the available fuel quality and cleanliness may not be sufficient. This will result in problems with the fuel system.

42

Refuel only with clean fuel that meets the specified standards. (Your authorized KTM workshop will be glad to help.)

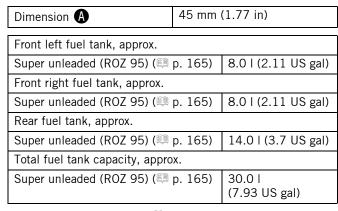


Environmental hazard Improper handling of fuel is a danger to the environment.

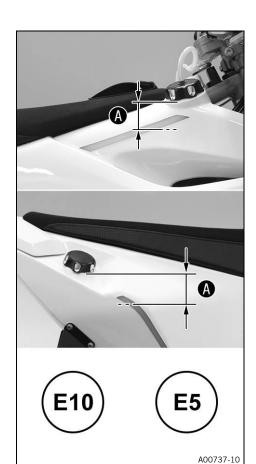
- Do not allow fuel to enter the groundwater, the soil, or the sewage system.
 - Switch off the engine.
 - Open fuel tank filler caps. (p. 20) Guideline

In the homologated condition, only the left front fuel tank may be used.

Fill the fuel tank with fuel up to a maximum of level (A). Guideline



Close fuel tank filler caps. (p. 21)



10.1 Additional information

Any further work that results from the compulsory work or from the recommended work must be ordered separately and invoiced separately.

Different service intervals may apply in your country, depending on the local operating conditions. Individual service intervals and scopes may change in the course of technical developments. The most up-to-date service schedule can always be found on KTM Dealer.net. Your authorized KTM dealer will be happy to advise you.

10.2 Required work

		aft	er ev	ery r	ace
Every 3	30 op	erati	ng ho	ours	
Every 20 op	erati	ng ho	urs		
Every 10 operati	ing ho	ours			
After 1 operating	hour				
Read out fault memory using the KTM diagnostics tool.	0	•	•	•	•
Check that the electrical system is functioning properly.	0	•	•	•	•
Check and charge the 12-V battery. ◀		•	•	•	•
Check that the brake linings of the front brake are secured. (🕮 p. 92)		•	•	•	•
Check that the brake linings of the rear brake are secured. (🕮 p. 98)		•	•	•	•
Check brake discs. (🕮 p. 90)		•	•	•	•
Check the brake lines for damage and tightness.		•	•	•	•
Check rear brake fluid level. (🕮 p. 96)		•	•	•	•
Check the free travel of the foot brake lever. (@ p. 95)		•	•	•	•
Check the frame and the link fork.		•	•	•	•
Check the link fork bearing.			•		
Check the heim joints at the top of the shock absorber. ◀		•	•	•	•
Check the shock absorber linkage. ◀		•	•	•	•
Conduct a minor fork service.		•	•	•	•
Conduct a major fork service.				•	
Check tire condition. (p. 106)	0	•	•	•	•
Check tire pressure. (@ p. 107)	0	•	•	•	•
Check the wheel bearing for play.		•	•	•	•
Check the wheel hubs.		•	•	•	•
Check the rim run-out.	0	•	•	•	•
Check the spoke tension. (p. 108)	0	•	•	•	•
Check the chain, rear sprocket, engine sprocket, and chain guide. (! p. 80)		•	•	•	•
Check chain tension. (p. 79)	0	•	•	•	•
Grease all moving parts (e.g., hand lever, chain,) and check for smooth operation.		•	•	•	•
Check/correct the fluid level of hydraulic clutch. (p. 84)		•	•	•	•
Check front brake fluid level. (p. 91)		•	•	•	•
Check the free travel of the hand brake lever. 4		•	•	•	•
Check steering head bearing play. (🕮 p. 63)	0	•	•	•	•
Check the valve clearance.	0			•	
Check the clutch. ◀		•	•	•	•
Change the engine oil and the oil filter, clean the oil screens. ◀ (興 p. 122)	0	•	•	•	•
Change the absorbing elements in the outer clutch basket		•	•	•	•

		aft	er ev	ery i	ace
Every	30 op	erati	ng ho	ours	
Every 20 o	perati	ng ho	ours		
Every 10 operat	ing h	ours			
After 1 operating	hour				
Check all hoses (e.g. fuel, cooling, bleeder, drainage hoses, etc.) and sleeves for cracking, tightness, and correct routing.	0	•	•	•	•
Check the antifreeze and coolant level. (p. 114)	0	•	•	•	•
Check the cables for damage and for routing without kinks. ◀		•	•	•	•
Check that the throttle cables are undamaged, routed without kinks, and set correctly.	0	•	•	•	•
Clean the air filter and air filter box. ◀ (의 p. 69)		•	•	•	•
Clean the fuel filter of the fuel tank. 🔏			•		
Change the glass fiber yarn filling of the main silencer. ◀ (의 p. 71)		•	•	•	•
Check the tightness of the safety-relevant screws and nuts which are easily accessible. ▲	0	•	•	•	•
Check the fuel pressure.		•	•	•	•
Adjust the idle speed. ◀ (의 p. 120)	0	•	•	•	•
Check that the radiator fan is functioning properly.		•	•	•	•
Final check: Check the vehicle is roadworthy and take a test ride.	0	•	•	•	•
Reading out the fault memory after the test ride using the KTM diagnostics tool.	0	•	•	•	•
Make a service entry in KTM Dealer.net. ❖	0	•	•	•	•

- One-time interval
- Periodic interval

10.3 Recommended work

				eve	ry 48	3 moi	nths
every 12 mo						nths	
		af	ter ev	ery r	ace		
Every 10	00 op	erat	ing ho	ours			
Every 50 op	erati	ng h	ours				
Every 40 operati	ing h	ours					
After 20 operating h	ours						
Change the front brake fluid. 🔏					•	•	•
Change the rear brake fluid. 🔏					•	•	•
Change the hydraulic clutch fluid. ◀ (ՀՀ p. 85)					•	•	•
Lubricate the steering head bearing. 🌂 🕮 p. 65)		•				•	•
Perform the shock absorber service	0	•					
Change the spark plug and spark plug connector.		•					
Empty the drainage hoses. 🔏		•				•	•
Change the coolant. (p. 117)							•
Perform minor engine service (Change piston. Check/measure the cylinder. Check the cylinder head. Check the camshaft and rocker arm. Change the connecting rod, conrod bearing and crank pin. Change the radial shaft seal rings of the water pump and check the transmission and the shift mechanism. Check the oil pressure control valve. Change the suction pump. Check the force pump and lubrication system. Change the timing chain. Check the timing assembly. Change all the engine bearings.).			•	•			

10 SERVICE SCHEDULE

		every 48	3 month
	eve	ry 12 moi	nths
	after ev	ery race	
Every 100 op	erating h	ours	
Every 50 operati	ng hours		
Every 40 operating ho	ours		
After 20 operating hours			
Perform major engine service (Change piston. Check/measure the cylinder. Check the cylinder head. Change the valves, valve springs, and valve spring seats. Check the camshaft and rocker arm. Change the connecting rod, conrod bearing and crank pin. Change the radial shaft seal rings of the water pump. Check the transmission and the shift mechanism. Check the oil pressure control valve. Change the suction pump. Check the force pump and lubrication system. Change the timing chain. Check the timing assembly. Change all the engine bearings.).		•	

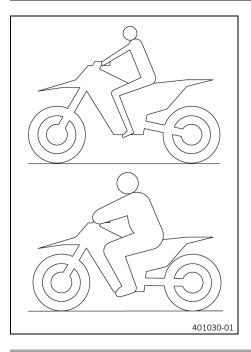
- o One-time interval
- Periodic interval

11.1 Checking basic chassis setting with rider's weight



Info

When adjusting the basic chassis setting, first adjust the shock absorber and then the fork.



- For optimal motorcycle riding characteristics and to avoid damage to forks, shock absorbers, swingarm and frame, the basic settings of the suspension components must match the rider's weight.
- As delivered, KTM offroad motorcycles are adjusted for an average rider's weight (with full protective clothing).

Guideline

Standard rider weight	75 85 kg (165			
	187 lb.)			

- If the rider's weight is above or below this range, the basic setting of the suspension components must be adjusted accordingly.
- Small weight differences can be compensated by adjusting the spring preload, but in the case of large weight differences, the springs must be replaced.

11.2 Compression damping of the shock absorber

The compression damping of the shock absorber is divided into two ranges: high-speed and low-speed. High-speed and low-speed refer to the compression speed of the rear wheel suspension and not to the vehicle speed.

The high-speed compression adjuster has an effect, for example, when landing after a jump: the rear wheel suspension compresses quickly.

The low-speed compression adjuster has an effect, for example, when riding over long ground swells: the rear wheel suspension compresses slowly.

These two ranges can be adjusted separately, although the transition between high-speed and low-speed is gradual. Thus, modifications in the high-speed range affect the compression damping in the low-speed range and vice versa.

11.3 Adjusting the low-speed compression damping of the shock absorber



Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



Info

The effect of the low-speed compression adjuster can be seen in slow to normal compression of the shock absorber.

Preparatory work

- Remove the seat. (p. 68)



Main work

- Turn adjusting screw 1 clockwise up to the last perceptible click.
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Low-speed compression damping					
Comfort 24 clicks					
Standard	20 clicks				
Sport	16 clicks				



Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.

Finishing work

- Mount the seat. (p. 68)

11.4 Adjusting the high-speed compression damping of the shock absorber



Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



Info

The effect of the high-speed compression adjuster can be seen in fast compression of the shock absorber.



Preparatory work

Main work

- Turn adjusting screw 1 clockwise all the way.
- Turn counterclockwise by the number of turns corresponding to the shock absorber type.

Guideline

High-speed compression damping				
Comfort	45 clicks			
Standard	40 clicks			
Sport	30 clicks			



Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.

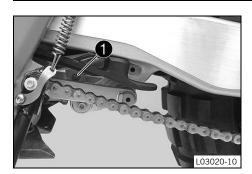
Finishing work

Mount the seat. (
 p. 68)

Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly. The shock absorber is filled with highly compressed nitrogen.

Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



- Turn adjusting screw 1 clockwise up to the last perceptible
- Turn counterclockwise by the number of clicks corresponding to the shock absorber type.

Guideline

Rebound damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks



Info

Turn clockwise to increase damping; turn counterclockwise to reduce damping.

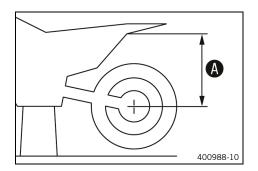
11.6 Measuring the dimension of the rear wheel unloaded

Preparatory work

Raise the motorcycle with a lift stand. (p. 56)

- Measure the vertical distance between the rear axle and a fixed point, such as a marking on the side cover.
- Note the value as dimension **A**.





Finishing work

Remove motorcycle from the lift stand. (p. 56)

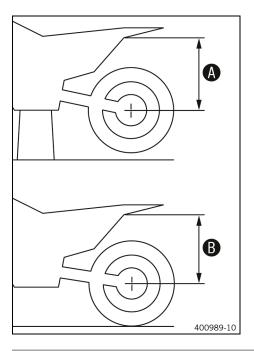
Checking static sag of the shock absorber 11.7

Condition

The fuel tanks are half full.

49

11 TUNING THE CHASSIS



- Measure dimension **A** of rear wheel unloaded. (p. 49)
- Hold the motorcycle perpendicular with the aid of an assistant.
- Measure the distance between the rear axle and the fixed point again.
- Note down the value as dimension **B**.



Info

The static sag is the difference between measurements **A** and **B**.

Check static sag.

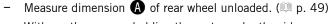
Static sag	40 mm (1.57 in)

- » If the static sag is less or more than the specified value:
 - Adjust the spring preload of the shock absorber. ◀
 (□ p. 51)

11.8 Checking riding sag of the shock absorber



The fuel tanks are half full.



- With another person holding the motorcycle, the rider, wearing full protective clothing, sits on the seat in a normal sitting position (feet on footrests) and bounces up and down a few times.
 - ✓ The rear wheel suspension levels out.
- Another person now measures the distance between the rear axle and the fixed point.
- Note down the value as dimension **6**.



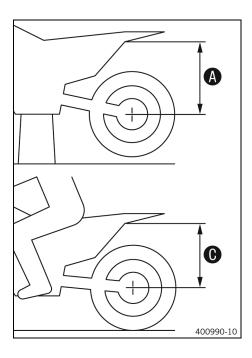
Info

The riding sag is the difference between measurements $\bf A$ and $\bf C$.

- Check riding sag.

Riding sag	105 mm (4.13 in)
------------	------------------

- » If the riding sag differs from the specified measurement:
 - Adjust the riding sag. ◀ (□ p. 52)



11.9 Adjusting the spring preload of the shock absorber 4



Caution

Risk of injury Parts of the shock absorber will move around if the shock absorber is detached incorrectly.

The shock absorber is filled with highly compressed nitrogen.

- Please follow the description provided. (Your authorized KTM workshop will be glad to help.)



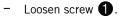
Info

Before changing the spring preload, make a note of the present setting, e.g., by measuring the spring length.

Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)
- Fold out the side stand and secure it.
- Remove the seat. (p. 68)
- Remove the shock absorber. 🔌 (🕮 p. 65)
- After removing the shock absorber, clean it thoroughly.

Main work



Turn adjusting ring 2 until the spring is no longer under tension.

Hook wrench (T106S)



Info

If the spring cannot be fully released, the spring must be removed to accurately measure the spring length.

- Measure the total spring length while the spring is not under tension
- Tension the spring by turning adjusting ring 2 to specified dimension A.

Guideline

Spring preload	
Standard	11 mm



Info

Depending on the static sag and/or the riding sag, it may be necessary to increase or decrease the spring preload.

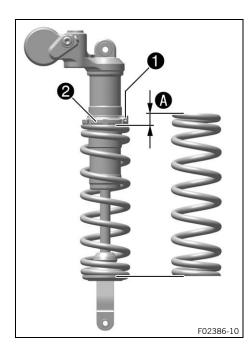
Tighten screw 1.



Screw, shock	M5	5 Nm (3.7 lbf ft)
,	IVIS	5 MIII (5.7 IDI IL)
absorber adjusting		
ring		

Finishing work

- Install the shock absorber. ⁴ (♠ p. 66)
- Mount the seat. (🕮 p. 68)



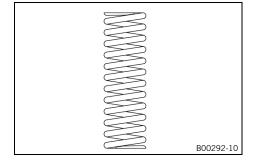
Remove motorcycle from the lift stand. (
 p. 56)

11.10 Adjusting the riding sag 🔌

Preparatory work

- Raise the motorcycle with a lift stand. (
 p. 56)
- Fold out the side stand and secure it.
- Remove the seat. (p. 68)

- After removing the shock absorber, clean it thoroughly.



Main work

Choose and mount a suitable spring.
 Guideline

Spring rate	
Weight of rider: ≤ 65 kg (≤ 143 lb.)	48 N/mm (274 lb/in)
Weight of rider: 65 75 kg (143 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75 85 kg (165 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85 95 kg (187 209 lb.)	57 N/mm (325 lb/in)
Weight of rider: ≥ 95 kg (≥ 209 lb.)	60 N/mm (343 lb/in)



Info

The spring rate is shown on the outside of the spring. Smaller weight differences can be compensated by changing the spring preload.

Finishing work

- Install the shock absorber. ♣ (♠ p. 66)
- Mount the seat. (
 p. 68)
- Remove motorcycle from the lift stand. (
 p. 56)

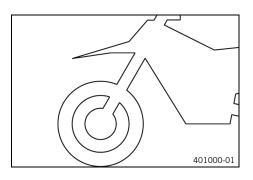
- Adjust the rebound damping of the shock absorber. (p. 49)

11.11 Checking the basic setting of the fork



Info

For various reasons, no exact riding sag can be determined for the forks.



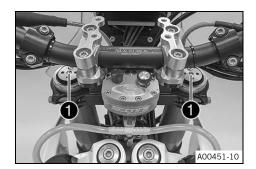
- As with the shock absorber, small differences in the rider's weight can be compensated by the spring preload.
- However, if the fork is often overloaded (hard end stop on compression), harder springs must be fit to avoid damage to the fork and frame.

11.12 Adjusting the compression damping of the fork



Info

The hydraulic compression damping determines the fork suspension behavior.



Turn adjusting screws clockwise all the way.



Info

Adjusting screws **1** are located at the top end of the fork legs.

Make the same adjustment on both fork legs.

 Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Compression damping	
Standard	15 clicks



Info

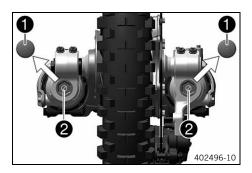
Turn clockwise to increase damping; turn counterclockwise to reduce damping during compression.

11.13 Adjusting the rebound damping of the fork



Info

The hydraulic rebound damping determines the fork suspension behavior.



- Take off protection caps 1.
- Turn adjusting screws 2 clockwise all the way.



Info

Adjusting screws **2** are located at the bottom end of the fork legs.

Make the same adjustment on both fork legs.

 Turn counterclockwise by the number of clicks corresponding to the fork type.

Guideline

Rebound damping	
Standard	15 clicks



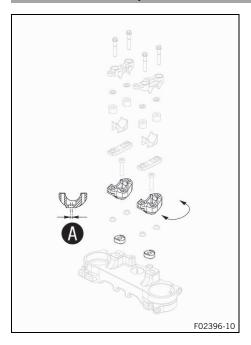
Info

Turn clockwise to increase the damping; turn counterclockwise to reduce damping when the shock absorber rebounds.

Mount protection caps 1.

J.

11.14 Handlebar position



The holes on the handlebar holders are placed at a distance of $oldsymbol{\mathbb{A}}$ from the center.

Distance A 3.5 mm (0.138 in) between holes

The handlebar supports can be turned by 180° . In this way, the handlebar can be mounted in the position that is most comfortable for the rider.

The handlebar supports can also be mounted at two different heights (with and without a spacer).

11.15 Adjusting the handlebar position 🔌

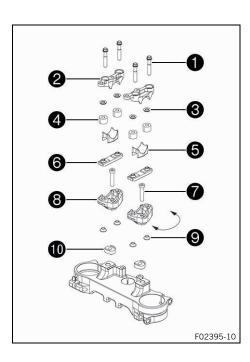


Warning

Danger of accidents A repaired handlebar poses a safety risk.

If the handlebar is bent or straightened, the material becomes fatigued. The handlebar may break as a result.

- Change the handlebar if the handlebar is damaged or bent.



- Remove screws 1.
- Take off handlebar clamps **2** with rubber washers **3** and elastomers **4**.
- Fix handlebar onto instrument support with cable ties.

i

Info

Cover the components to protect them against damage. Do not kink the cables and lines.

- Take out lower shells **5** and clamping bars **6**.
- Remove screws **7**. Take off handlebar supports **8** with conical rubber pieces **9**.
- Place handlebar supports 8 with conical rubber pieces 9 in the desired position. Mount and tighten screws 7.
 Guideline

Screw, handle-	M10	45 Nm (33.2 lbf ft)
bar support		Loctite®243™

Condition

Spacer 10 fitted:

Use an M10x35 screw.

Condition

without spacer 10:

Use an M10x25 screw.



Info

Position the left and right handlebar supports evenly.

- Insert clamping bars **6** and lower shells **5**.
- Remove the cable ties and position the handlebar.



Info

Make sure the cables and wiring are positioned correctly.

Position handlebar clamps **2** with rubber washers **3** and elastomers **4**.

Elastomer kit, green - soft (SXS05125203)

Elastomer kit, yellow - medium (standard) (SXS05125204)

Elastomer kit, red - hard (SXS05125205)



Info

The elastomers are available in different versions.

Mount screws and tighten evenly.

Guideline

Screw, handlebar	M8	20 Nm (14.8 lbf ft)
clamp		



Info

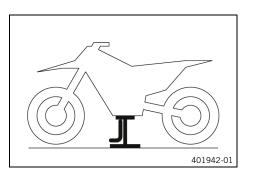
Make sure the installed gaps are even.

12.1 Raising the motorcycle with a lift stand

Note

Danger of damage The parked vehicle can roll away or fall over.

Park the vehicle on a firm and level surface.



- Use the engine guard underneath the engine to raise the vehicle.
 - ✓ Neither wheel is in contact with the ground.
- Secure the motorcycle against falling over.

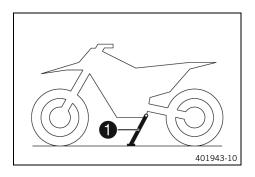
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12.2 Removing motorcycle from lift stand

Note

Danger of damage The parked vehicle can roll away or fall over.

Park the vehicle on a firm and level surface.



- Remove motorcycle from the lift stand.
- Remove lift stand.
- To park the motorcycle, press side stand 1 to the ground with your foot and lean the motorcycle on it.



Info

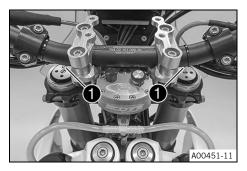
When you are riding, the side stand must be folded up and secured with the rubber strap.

12.3 Bleeding the fork legs

Preparatory work



- Release bleeder screws 1.
 - ✓ Any excess pressure escapes from the interior of the fork.
- Tighten the bleeder screws.



Finishing work

- Remove motorcycle from the lift stand. (p. 56)

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12.4 Cleaning the dust boots of the fork legs

Preparatory work

Main work

Push dust boots 1 of both fork legs downward.



Info

The dust boots remove dust and coarse dirt particles from the inside fork tubes. Over time, dirt can accumulate behind the dust boots. If this dirt is not removed, the oil seals behind can start to leak.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.
- Clean and oil the dust boots and inner fork tubes of both fork legs.

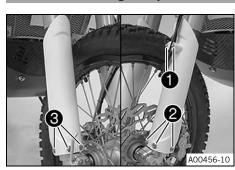
Universal oil spray (🕮 p. 167)

- Press the dust boots back into the installation position.
- Remove excess oil.

Finishing work

- Install the fork protector. (
 p. 58)
- Remove motorcycle from the lift stand. (p. 56)

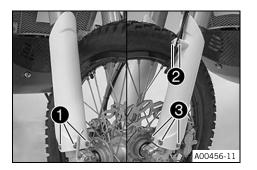
12.5 Removing fork protector



- Remove screws 1 and take off the clamp.
- Remove screws **2** on the left fork leg and take off the left fork protector.
- Remove screws **3** on the right fork leg and take off the right fork protector.

•

12.6 Installing the fork protector



 Position fork protector on the right fork leg. Mount and tighten screws 1.

Guideline

Remaining screws,	M6	10 Nm (7.4 lbf ft)
chassis		

- Position brake line, wiring harness, and clamp. Mount and tighten screws 2.
- Position fork protector on left fork leg. Mount and tighten screws **3**.

Guideline

Remaining screws,	M6	10 Nm (7.4 lbf ft)
chassis		

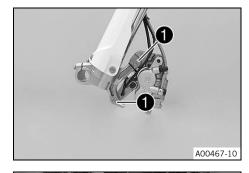
12.7 Removing fork legs 🔌

Preparatory work

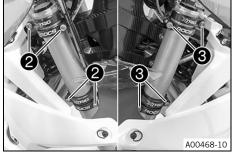
- Raise the motorcycle with a lift stand. (p. 56)
- Remove front wheel. ◀ (IP p. 102)

Main work

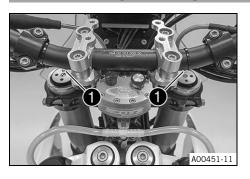
- Remove screws 1.
- Allow the brake caliper and brake line to hang loosely to the side.



- Loosen screws 2. Take out the right fork leg.
- Loosen screws 3. Take out the left fork leg.



12.8 Installing the fork legs 🔦



Main work

Position fork legs.

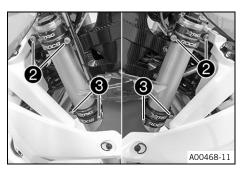
✓ Bleeder screws are positioned toward the front.

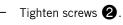
i

Info

Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.

58





Guideline

Screw, top triple	M8	15 Nm (11.1 lbf ft)
clamp		

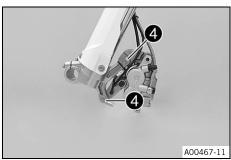
Tighten screws 3.

Guideline

Screw, bottom triple clamp	M8	17 Nm (12.5 lbf ft)
----------------------------	----	---------------------

Position brake caliper. Mount and tighten screws 4. Guideline

Screw, front	M8	25 Nm (18.4 lbf ft)
brake caliper		Loctite®243™



Finishing work

Install the front wheel. \triangleleft (p. 102)

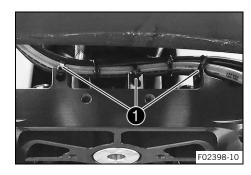
12.9 Removing the lower triple clamp 🔌

Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)
- Remove front wheel. 🌂 (🕮 p. 102)
- Remove fork legs. 🔌 (🕮 p. 58)
- Remove front fender. (p. 67)

Main work

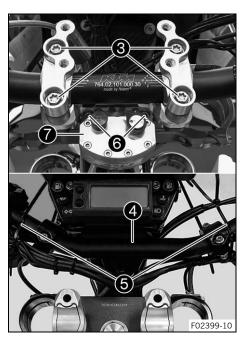
- Remove cable tie(s) 1.
- Allow the brake caliper and the brake line to hang loosely to the side.



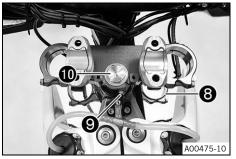


Remove screws **2** and take off the cable guide.

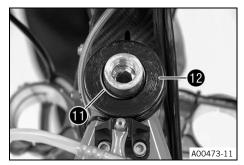
12 SERVICE WORK ON THE CHASSIS



- Remove screws 3. Take off the handlebar clamps with the rubber washers and elastomers.
- Fix handlebar 4 onto the instrument support with cable tie(s) 5.
- Remove screws 6 and take off steering damper 7.

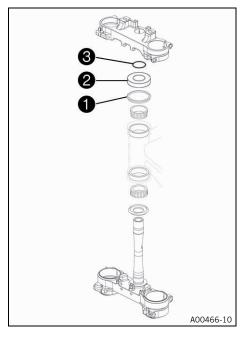


- Secure lower triple clamp 8 against falling out.
- Remove screw **9**.
- Remove screw 10.
- Remove the upper triple clamp.



- Remove O-ring 11. Remove protective ring 12.
- Take out the lower triple clamp with the steering stem.
- Take out the upper steering head bearing.

12.10 Installing the lower triple clamp &

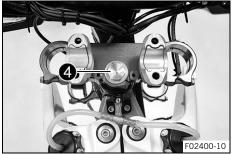


Main work

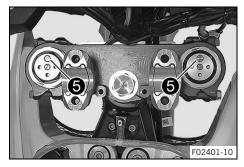
 Clean the bearing and sealing elements, check for damage, and grease.

High viscosity grease (p. 166)

- Insert the lower triple clamp with the steering stem. Mount upper steering head bearing.
- Check whether upper steering head seal
 is correctly positioned
- Slide on protective ring 2 and 0-ring 3.



- Position the upper triple clamp.
- Mount screw **4**, but do not tighten yet.

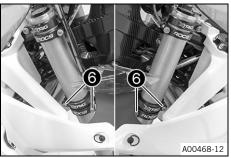


- Position the fork legs.
 - ✓ Bleeder screws **⑤** are positioned toward the front.



Info

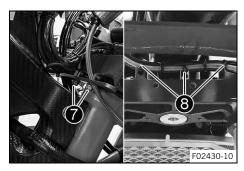
Grooves are milled into the side of the upper end of the fork legs. The second milled groove (from the top) must be flush with the upper edge of the upper triple clamp.

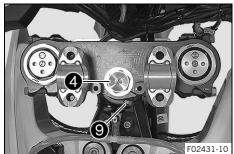


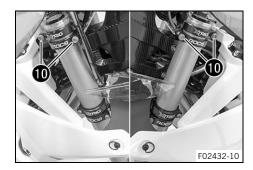
- Tighten screws **6**.

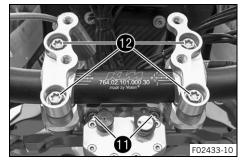
Guideline

Screw, bottom triple	M8	17 Nm (12.5 lbf ft)
clamp		









- Position the cable guide.
- Mount and tighten screws 7.

Guideline

Screw, brake line	M5	2 Nm (1.5 lbf ft)
holder on bottom		
triple clamp		

- Secure the brake line with cable tie 8.

Tighten screw 4.

Guideline

Screw, top steering	M20x1	12 Nm (8.9 lbf ft)
head		

- Mount and tighten screw 🧐.

Guideline

Screw, top	M8	20 Nm (14.8 lbf ft)
steering stem		Loctite®243™

- Tighten screws 🕡.

Guideline

Screw, top triple	M8	15 Nm (11.1 lbf ft)
clamp		

Position steering damper and mount and tighten screws ①.
 Guideline

Screw, steering	M6	15 Nm (11.1 lbf ft)
damper		

- Remove the cable ties and position the handlebar.
- Position the handlebar clamps with the rubber washers and elastomers.
- Mount screws 12 and tighten evenly.

Guideline

Screw, handlebar	M8	20 Nm (14.8 lbf ft)
clamp		



Info

Make sure the installed gaps are even.

Finishing work

- Check that the wiring harness, throttle cables, and brake and clutch lines can move freely and are routed correctly.
- Install front fender. (🕮 p. 67)
- Install the front wheel. ◀ (🕮 p. 102)
- Check steering head bearing play. (p. 63)
- Remove motorcycle from the lift stand. (
 p. 56)

•

12.11 Checking steering head bearing play



Warning

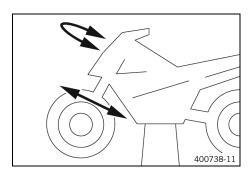
Danger of accidents Incorrect steering head bearing play impairs the handling characteristic and damages components.

 Correct incorrect steering head bearing play immediately. (Your authorized KTM workshop will be glad to help.)



Info

If the vehicle is operated for a lengthy period with play in the steering head bearing, the bearings and the bearing seats in the frame can become damaged over time.



Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)

Main work

 Move the handlebar to the straight-ahead position. Move the fork legs to and fro in the direction of travel.

Play should not be detectable on the steering head bearing.

- » If there is detectable play:
- Move the handlebar to and fro over the entire steering range.

It must be possible to move the handlebar easily over the entire steering range. There should be no detectable detent positions.

- » If detent positions are detected:
 - Adjust the steering head bearing play. ◀ (의 p. 63)
 - Check steering head bearing and replace if required.

Finishing work

Remove motorcycle from the lift stand. (
 p. 56)

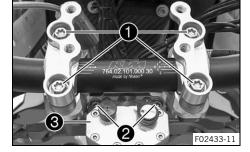
12.12 Adjusting the steering head bearing play 🔌

Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)



- Remove screws 1.
- Take off the handlebar clamps with the rubber washers and elastomers
- Fix handlebar onto instrument support with cable ties.

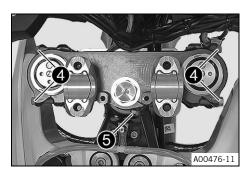




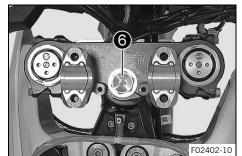
Info

Cover the components to protect them against damage. Do not kink the cables and lines.

Remove screws **2** and take off steering damper **3**.



- Loosen screws 4.
- Remove screw **5**.

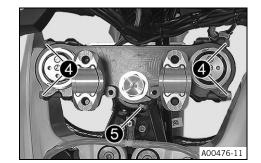


Loosen and retighten screw 6.

Guideline

Screw, top steering head	M20x1	12 Nm (8.9 lbf ft)
--------------------------	-------	--------------------

 Using a plastic hammer, tap lightly on the upper triple clamp to avoid stresses.



- Tighten screws 4.

Guideline

Screw, top triple	M8	15 Nm (11.1 lbf ft)
clamp		

Mount and tighten screw 6.

Guideline

Screw, top	M8	20 Nm (14.8 lbf ft)
steering stem		Loctite®243™

Position steering damper 3 and mount and tighten screws 2.

Guideline

Screw, steering	M6	15 Nm (11.1 lbf ft)
damper		

Remove the cable ties and position the handlebar.



Info

Make sure the cables and wiring are positioned correctly.

- Position the handlebar clamps with the rubber washers and elastomers.
- Mount screws 1 and tighten evenly.

Guideline

(Screw, handlebar	M8	20 Nm (14.8 lbf ft)
(clamp		



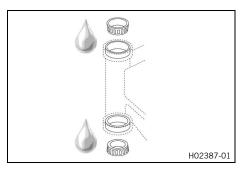
Info

Make sure the installed gaps are even.

Finishing work

- Remove motorcycle from the lift stand. (p. 56)

12.13 Lubricating the steering head bearing 4



12.14

- Install the lower triple clamp. ◄ (□ p. 61)



Info

The steering head bearing is cleaned and lubricated in the course of removal and installation of the lower triple clamp.

Removing the shock absorber 🔌

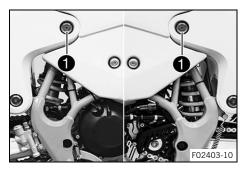
Preparatory work

- Raise the motorcycle with a lift stand. (Imp. 56)
- Fold out the side stand and secure it.
- Remove the seat. (p. 68)
- Remove main silencer. (

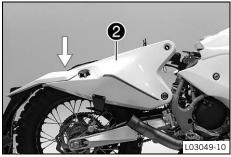
 p. 71)



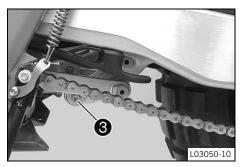
Remove screws 1.



Carefully lower rear fuel tank 2.

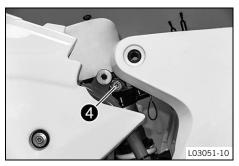


Remove screw 3 with the washer.

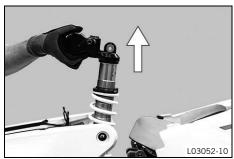


In

Raise the link fork slightly to be able to remove the screw more easily.

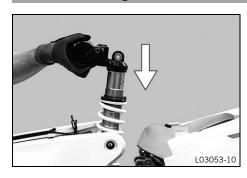


Remove screw 4 with the washer.



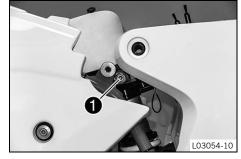
Remove shock absorber toward top carefully.

12.15 Installing the shock absorber 4



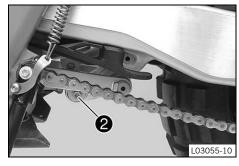
Main work

Carefully position shock absorber into the vehicle from above.



- Mount and tighten screw 1 with the washer.
Guideline

Fitting, shock	M10	60 Nm (44.3 lbf ft)
absorber, top		Loctite®243™



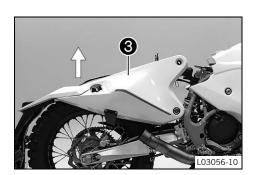
Mount and tighten screw **2** with the washer. Guideline

Fitting, shock	M10	60 Nm (44.3 lbf ft)
absorber, bot-		Loctite®243™
tom		

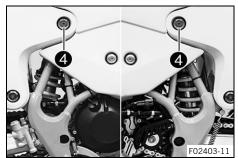


Info

Raise the link fork slightly to be able to mount the screw more easily.



- Raise rear fuel tank **3**.



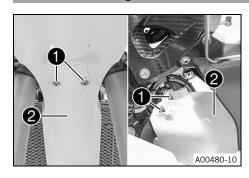
- Mount and tighten screws **4**. Guideline

Remaining screws,	M8	25 Nm (18.4 lbf ft)
chassis		

Finishing work

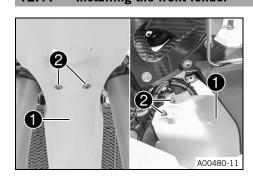
- Install the main silencer. (♠ p. 71)
- Mount the seat. (
 p. 68)
- Remove motorcycle from the lift stand. (p. 56)

12.16 Removing front fender



Remove screws 1 and take off fender 2.

12.17 Installing the front fender



Position fender 1 and mount and tighten screws 2.
 Guideline

Remaining screws,	M6	10 Nm (7.4 lbf ft)
chassis		

67

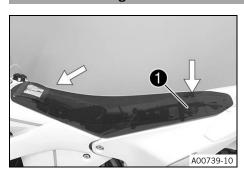
12.18 Removing the seat



 Pull on loop ①. At the same time, lift the seat at the rear and take it off.

4

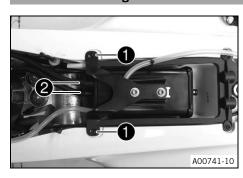
12.19 Mounting the seat



- Position the seat between the two front fuel tanks.
- Insert locking pin into the lock housing and push down the rear of the seat until the locking pin engages with a click.
- Check that the seat is correctly mounted.

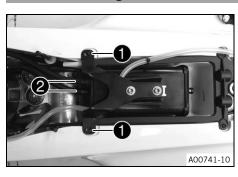
4

12.20 Removing the activated carbon filter



- Remove screws 1.
- Pull off hoses **2**.
- Take out the activated carbon filter.

12.21 Installing the activated carbon filter



- Position the activated carbon filter.
- Mount and tighten screws 1.
- Mount the hoses 2.

4

12.22 Removing the air filter 🔦

Note

Engine damage Unfiltered intake air has a negative effect on the service life of the engine.

Dust and dirt will enter the engine without an air filter.

Only operate the vehicle if it is equipped with an air filter.



Note

Environmental hazard Hazardous substances cause environmental damage.

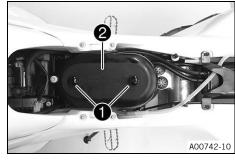
 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

Preparatory work

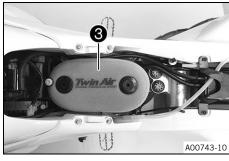
- Remove the seat. (p. 68)

Main work

- Remove screws 1.
- Remove air filter cover 2.



- Remove air filter 3.



12.23 Cleaning the air filter and air filter box 🖪



Note

Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



Info

Do not clean the air filter with fuel or petroleum since these substances attack the foam.

Preparatory work

- Remove the seat. (🕮 p. 68)
- Remove the air filter. ◀ (♠ p. 69)

SERVICE WORK ON THE CHASSIS



Main work

Wash the air filter thoroughly in special cleaning liquid and allow it to dry properly.

Air filter cleaner (p. 166)



Only press the air filter to dry it, never wring it out.

Oil the dry air filter with a high-grade air filter oil.

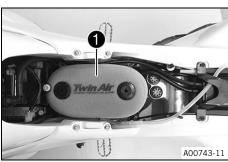
Oil for foam air filter (p. 166)

- Clean the air filter box.
- Check intake flange for damage and looseness.

Finishing work

- Install the air filter. 🔌 (🕮 p. 70)
- Mount the seat. (p. 68)

12.24 Installing the air filter 🔌



Main work

Mount clean air filter 1.

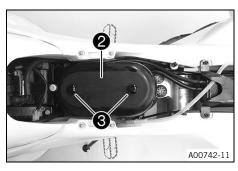




Info

The air filter must lie flush against the air filter box along the entire sealing surface.

If the air filter is not correctly mounted, dust and dirt can enter the engine and cause damage.



- Position air filter cover 2.
- Mount and tighten screws **3**.

Finishing work

Mount the seat. (p. 68)

12.25 Removing the main silencer



Warning

Danger of burns The exhaust system gets hot when the vehicle is driven.

- Allow the exhaust system to cool down before performing any work on the vehicle.



Detach springs 1.

Spring hook (50305017000C1)

Remove screw 2 and take off the main silencer.

4

12.26 Installing the main silencer



- Position the main silencer. Mount screw 1, but do not tighten yet.
- Attach springs 2.

Spring hook (50305017000C1)

Tighten screw 1.

Guideline

Remaining screws,	M8	25 Nm (18.4 lbf ft)
chassis		

12.27 Changing the glass fiber yarn filling of the main silencer 🔌



Warning

Danger of burns The exhaust system gets hot when the vehicle is driven.

- Allow the exhaust system to cool down before performing any work on the vehicle.

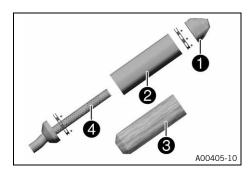


Info

Over a period, the fibers of the rock wool escape into the air, and the silencer "burns out". Not only is the noise level higher, the performance characteristic changes.

Preparatory work

- Remove main silencer. (p. 71)



Main work

Drill out all rivets on the main silencer and remove steel strips.
 Carefully remove rivets in inward direction.



Info

Remove all remains of rivets from the inside of the main silencer.

- Take off silencer cap 1 and outer tube 2.
- Pull glass fiber yarn filling 3 off of inner tube 4.
- Clean the parts that need to be reinstalled and check for damage.
- Wind adhesive tape around the end of inner tube 4.
- Mount new glass fiber yarn filling **3** on inner tube **4**.
- Remove adhesive tape from inner tube 4.
- Slide outer tube **2** over the glass fiber yarn filling **3**.
- Insert silencer cap 1 into the outer tube.
- Position steel bands and mount new rivets.

Finishing work

- Install the main silencer. (p. 71)

12.28 Removing front left fuel tank 🔦



Danger

Fire hazard Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is harmful to health.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

Preparatory work

- Remove the seat. (🕮 p. 68)
- Remove side cover. (p. 87)



Main work

Clean quick release coupling 1 thoroughly with compressed air



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

 Disconnect the quick release coupling and remove it from the holder.

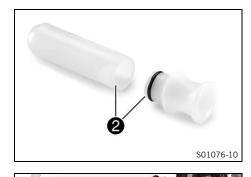


Info

Remaining fuel may flow out of the fuel hose.

Mount wash cap set 2 from the separate enclosure.

Wash cap set (81212016100)



Clean quick release coupling 3 thoroughly with compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Disconnect the quick release coupling.



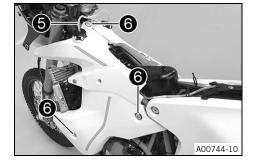
Info

Remaining fuel may flow out of the fuel hose.

Mount wash cap set from the separate enclosure.

Wash cap set (81212016000)

- Disconnect plug-in connection 4 of the fuel pump.
- Pull off fuel tank breather hose 6.
- Remove screws 6.
- Take off the fuel tank.





Info

Set the fuel tank down in an upright position as otherwise fuel can escape from the fuel tank breather at the fuel tank filler cap.

12.29 Removing front right fuel tank &



Danger

Fire hazard Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is harmful to health.

- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.

Preparatory work

- Remove the seat. (p. 68)

Main work

 Clean quick release coupling 1 thoroughly with compressed air.





Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

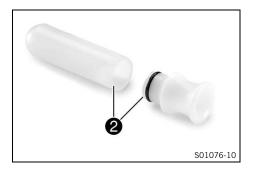
- Disconnect the quick release coupling and remove it from the holder.



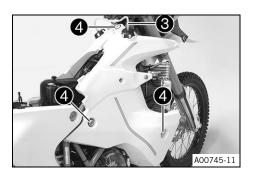
Info

Remaining fuel may flow out of the fuel hose.

Mount wash cap set ② from the separate enclosure.



Wash cap set (81212016000)



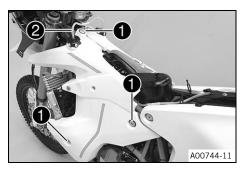
- Pull off fuel tank breather hose 3.
- Remove screws 4.
- Take off the fuel tank.



Info

Set the fuel tank down in an upright position as otherwise fuel can escape from the fuel tank breather at the fuel tank filler cap.

12.30 Installing the front left fuel tank &

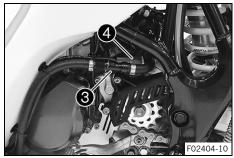


Main work

Position fuel tank, and mount and tighten screws 1. Guideline

Screw, front fuel tank M8 8 Nm (5.9 lbf ft)

Mount fuel tank breather hose 2.



- Remove the wash cap set.
- Clean quick release coupling 3 thoroughly with compressed air.



Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

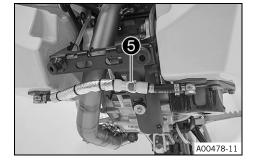
Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (p. 166)

- Join quick release coupling 3.
- Join the plug-in connector of fuel pump 4.



- Remove the wash cap set.
- Clean quick release coupling **5** thoroughly with compressed



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (p. 166)

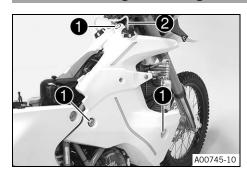
- Join quick release coupling **5**.
- Position the fuel line in the holder.

Finishing work

- Install the engine guard. (p. 89)
- Mount side cover. (p. 88)

- Mount the seat. (p. 68)

12.31 Installing the front right fuel tank 4

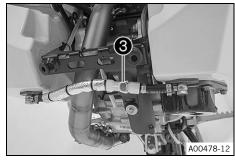


Main work

Position fuel tank, and mount and tighten screws ①.
 Guideline

Screw, front fuel tank M8 8 Nm (5.9 lbf t	t)
---	----

Mount fuel tank breather hose 2.



- Remove the wash cap set.
- Clean quick release coupling 3 thoroughly with compressed air.



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

 Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (🕮 p. 166)

- Join quick release coupling 3.
- Position the fuel line in the holder.

Finishing work

- Install the engine guard. (🕮 p. 89)
- Mount side cover. (
 p. 88)
- Mount the seat. (🕮 p. 68)

12.32 Changing the fuel screen 🔌



Danger

Fire hazard Fuel is highly flammable.

The fuel in the fuel tank expands when warm and can escape if overfilled.

- Do not fuel the vehicle in the vicinity of open flames or lit cigarettes.
- Switch off the engine for refueling.
- Make sure that no fuel is spilled; particularly not on hot parts of the vehicle.
- If any fuel is spilled, wipe it off immediately.
- Observe the specifications for refueling.



Warning

Danger of poisoning Fuel is harmful to health.

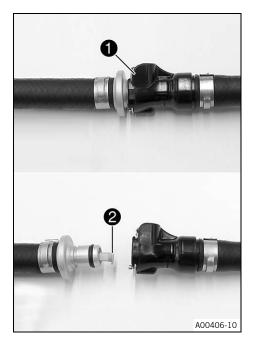
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.



Note

Environmental hazard Improper handling of fuel is a danger to the environment.

- Do not allow fuel to enter the groundwater, the soil, or the sewage system.



- Clean quick release coupling 1 thoroughly with compressed air



Info

Under no circumstances should dirt enter into the fuel line. Dirt in the fuel line clogs the injection valve!

- Disconnect the quick release coupling.



Info

Remaining fuel may flow out of the fuel hose.

- Pull fuel screen 2 out of the connecting piece.
- Insert the new fuel screen all the way into the connecting piece.
- Spray silicone spray onto a lint-free cleaning cloth and lightly lubricate the O-ring of the quick-release coupling.

Silicone spray (p. 166)

Join quick release coupling 1.

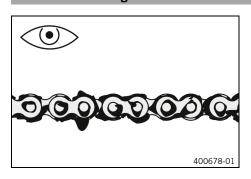


Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.
- Start the engine and check the response.

12.33 Checking the chain for dirt accumulation



- Check the chain for coarse dirt accumulation.
 - » If the chain is very dirty:
 - Clean the chain. (
 p. 78)

12.34 Cleaning the chain



Warning

Danger of accidents Lubricants on the tires reduces the road grip.

- Remove lubricants from the tires using a suitable cleaning agent.



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Note

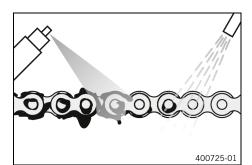
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



Info

The service life of the chain depends largely on its maintenance.



Preparatory work

Raise the motorcycle with a lift stand. (
 p. 56)

Main work

- Rinse off loose dirt with a soft jet of water.
- Remove old grease residue with chain cleaner.

Chain cleaner (🕮 p. 166)

- After drying, apply chain spray.

Off-road chain spray (p. 166)

Finishing work

Remove motorcycle from the lift stand. (
 p. 56)

•

12.35 Checking chain tension



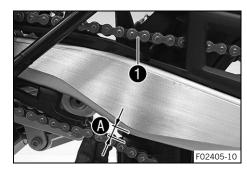
Warning

Danger of accidents
Incorrect chain tension damages components and results in accidents.

If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.



Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)

Main work

- Push the chain upward at the end of the chain sliding guard to measure chain tension **A**.



Info

Top chain section 1 must be taut.

Chain wear is not always even, so you should repeat this measurement at different chain positions.

Chain tension

7 mm

- » If the chain tension does not meet the specification:

Finishing work

Remove motorcycle from the lift stand. (
 p. 56)

12.36 Adjusting the chain tension



Warning

Danger of accidents
Incorrect chain tension damages components and results in accidents.

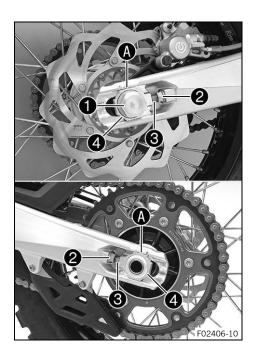
If the chain is tensioned too much, the chain, engine sprocket, rear sprocket, transmission and rear wheel bearings wear more quickly. Some components may break if overloaded.

If the chain is too loose, the chain may fall off the engine sprocket or the rear sprocket. As a result, the rear wheel locks or the engine will be damaged.

- Check the chain tension regularly.
- Set the chain tension in accordance with the specification.

Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)



Main work

- Loosen nut 1.
- Loosen nuts 2.
- Adjust the chain tension by turning adjusting screws 3 left and right.

Guideline

Chain tension 7 mm

Turn adjusting screws 3 on the left and right so that the markings on the left and right chain adjusters are in the same position relative to reference marks A. The rear wheel is then correctly aligned.



Info

The top chain section must be taut. Chain wear is not always even. Repeat this measurement at different chain positions.

- Tighten nuts 2.
- Make sure that chain adjusters 4 are fitted correctly on adjusting screws 3.
- Tighten nut 🕦.

Guideline

Nut, rear wheel spin-	M25x1.5	80 Nm (59 lbf ft)
dle		



Info

The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain length.

Chain adjusters 4 can be turned by 180°.

Finishing work

Remove motorcycle from the lift stand. (
 p. 56)

12.37 Checking the chain, rear sprocket, engine sprocket, and chain guide

Preparatory work

Raise the motorcycle with a lift stand. (
 p. 56)

Main work

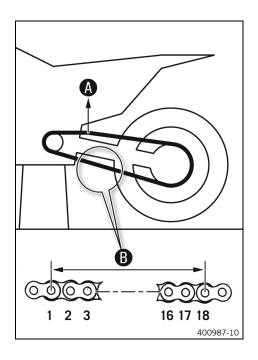
- Shift the transmission into neutral.
- Check the chain, rear sprocket, and engine sprocket for wear.
 - » If the chain, rear sprocket or engine sprocket is worn:
 - Change the drivetrain kit.



Info

The engine sprocket, rear sprocket, and chain should always be replaced together.

400227-01



 Pull on the top section of the chain with the specified weight A.

Guideline

Weight, chain wear measure-	10 15 kg (22 33 lb.)
ment	

- Measure distance **B** of 18 chain rollers in the lower chain section.



Info

Chain wear is not always even, so you should repeat this measurement at different chain positions.

Maximum distance B at	272 mm (10.71 in)
the longest chain section	

- » If distance **B** is greater than the specified measurement:
 - Change the drivetrain kit.



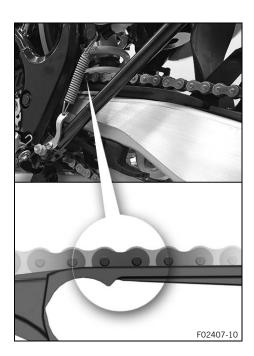
Info

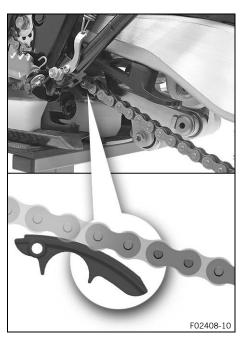
When a new chain is mounted, the rear sprocket and engine sprocket should also be changed. New chains wear out faster on old, worn sprockets.

- Check the chain sliding guard for wear.
 - » If the lower edge of the chain pins is in line with, or below, the chain sliding guard:
 - Change the chain sliding guard. 🔦
- Check that the chain sliding guard is firmly seated.
 - » If the chain sliding guard is loose:
 - Tighten the chain sliding guard.

Guideline

Screw, chain	M6	6 Nm (4.4 lbf ft)
sliding guard		Loctite®243™







- » If the lower edge of the chain pins is in line with or below the chain sliding piece:
 - Change the chain sliding piece.
- Check that the chain sliding piece is firmly seated.
 - » If the chain sliding piece is loose:
 - Tighten the chain sliding piece.

Guideline

Screw, chain slid-	M8	15 Nm
ing piece		(11.1 lbf ft)



- Check the chain guide for wear.



Info

Wear can be seen on the front of the chain guide.

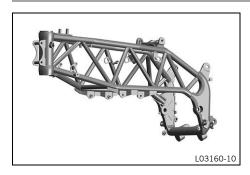
- » If the chain guide is worn:
 - Change the chain guide. 🔦
- Check that the chain guide is firmly seated.
 - » If the chain guide is loose:
 - Tighten the chain guide.
 - Guideline

Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)

Finishing work

- Remove motorcycle from the lift stand. (p. 56)

12.38 Checking the frame 🔦

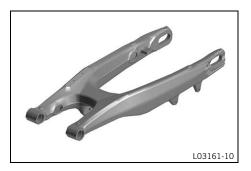


- Check the frame for damage, cracks, and deformation.
 - If the frame shows signs of damage, cracks, or deformation:
 - Change the frame.
 Guideline

Repairs on the frame are not permitted.

•

12.39 Checking swingarm 🔦



- Check link fork for damage, cracking, and deformation.
 - » If the link fork shows signs of damage, cracking, or deformation:
 - Change the link fork.



Info

Always replace a damaged link fork. Repairing the link fork is not authorized by KTM.

12.40 Checking the throttle cable routing



Warning

Danger of accidents The throttle cable can become kinked, trapped or blocked if it is not routed correctly.

If the throttle cable is kinked, trapped or blocked, the speed can no longer be controlled.

 Make sure that the throttle cable routing and the play in throttle cable complies with the specification

Preparatory work

- Remove the engine guard. (p. 89)



Check the throttle cable routing.

Both throttle cables must be routed side-by-side behind the handlebars and between the right fork leg and frame toward the throttle valve body.

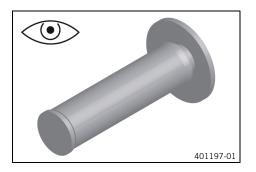
- » If the throttle cable is not routed as specified:
 - Correct the throttle cable routing.



Finishing work

- Install the front right fuel tank. ◄ (♣ p. 76)
- Mount side cover. (
 p. 88)
- Mount the seat. (p. 68)

12.41 Checking the rubber grip



- Check the rubber grips on the handlebar for damage, wear, and looseness.
 - » If a rubber grip is damaged, worn, or loose:
 - Change and secure the rubber grip.

Rubber grip adhesive (00062030051) (p. 166)

•

12.42 Adjusting the basic position of the clutch lever



 Adjust basic position of the clutch lever to your hand size by turning adjusting screw 1.



Info

Turn the adjusting screw clockwise to increase the distance between the clutch lever and the handlebar. Turn the adjusting screw counterclockwise to decrease the distance between the clutch lever and the handlebar.

The range of adjustment is limited.

Turn the adjusting screw by hand only, and do not apply any force.

Do not make any adjustments while riding.

•

12.43 Checking/correcting the fluid level of hydraulic clutch



Warning

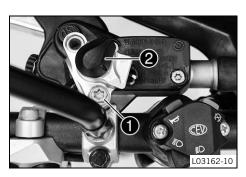
Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.

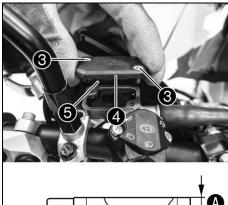


Info

The fluid level rises with increasing wear of the clutch facing discs. Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Remove screw 1.
- Take off fuel pump controller **2** and hang to the side.



- Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
- Remove screws 3.
- Take off cover 4 with membrane 5.
- Check the fluid level.



- » If the level of the fluid does not meet specifications:
 - Correct the fluid level of the hydraulic clutch.

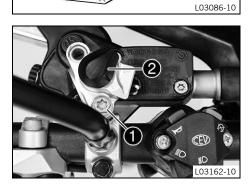
Brake fluid DOT 4 / DOT 5.1 (🕮 p. 164)

Position cover 4 with membrane 5. Mount and tighten screws 6.



Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.



- Position fuel pump controller ②.
- Mount and tighten screw 1.

12.44 Changing the hydraulic clutch fluid &



Warning

Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Note

Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

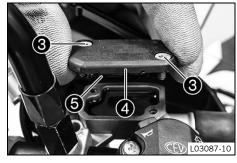


Info

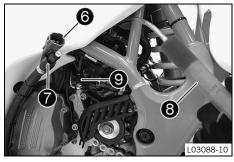
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Remove screw 1.
- Take off fuel pump controller 2 and hang to the side.



- Move the hydraulic clutch fluid reservoir mounted on the handlebar into a horizontal position.
- Remove screws 3.
- Take off cover **4** with membrane **5**.

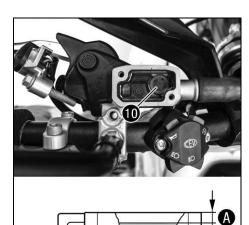


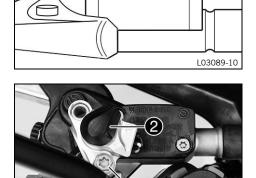
- Disconnect plug-in connector 6.
- Disconnect quick release coupling 7.
- Fill bleeding syringe 8 with the appropriate hydraulic fluid.

Syringe (50329050000)

Brake fluid DOT 4 / DOT 5.1 (p. 164)

On the slave cylinder, remove bleeder screw **9** and mount bleeding syringe **8**.





- Now inject fluid into the system until it escapes from the openings to of the master cylinder without bubbles.
- Occasionally extract the fluid from the master cylinder reservoir to prevent overflowing.
- Remove bleeding syringe **3**. Mount and tighten bleeder screw **9**.
- Join plug-in connector 6.
- Join quick release coupling 7.
- Correct the fluid level of the hydraulic clutch.
 Guideline

Fluid level A below con-	4 mm (0.16 in)
tainer rim	

Position cover **4** with membrane **5**. Mount and tighten screws **3**.

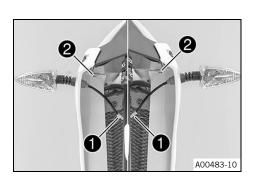


Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.

- Position fuel pump controller 2.
- Mount and tighten screw ①.

12.45 Removing side cover



Preparatory work

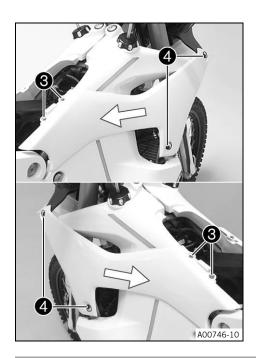
- Remove the seat. (
p. 68)

Main work

- Disconnect plug-in connectors 1 of the turn signals.
- Remove screws **2**.

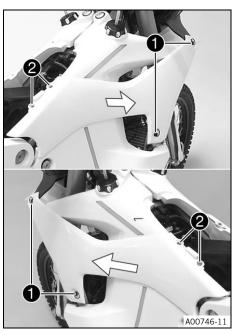


12 SERVICE WORK ON THE CHASSIS

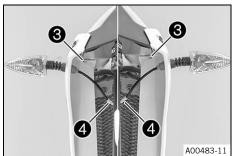


- Remove screws **3**.
- Unlock quick releases 4.
- Carefully push the side cover to the rear and remove.

12.46 Mounting side cover

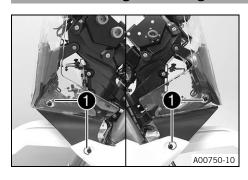


- Position side cover and slide it forward.
- Lock quick releases 1.
- Mount and tighten screws 2.



- Mount and tighten screws 3.
- Join plug-in connection 4 of the turn signals.

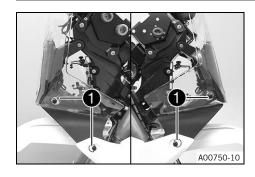
12.47 Removing front fairing



- Unlock quick releases 1.
- Raise the front fairing, tilt forward and take off.

•

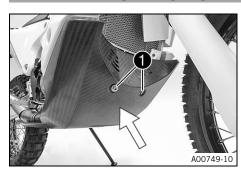
12.48 Mounting front fairing



- Position front fairing.
- Lock quick releases ①.

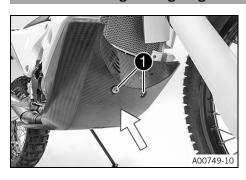
4

12.49 Removing the engine guard



- Remove screws 1. Take off the engine guard to the front.

12.50 Installing the engine guard



- Position the engine guard.
- Mount and tighten screws ①.
 Guideline

Screw, engine guard M8 25 Nm (18.4 lbf ft)

13.1 Adjusting the basic position of the hand brake lever



 Adjust basic position of the hand brake lever to your hand size by turning adjusting screw 1.



Info

Turn the adjusting screw clockwise to increase the distance between the hand brake lever and the handlebar.

Turn the adjusting screw counterclockwise to decrease the distance between the hand brake lever and the handlebar.

The range of adjustment is limited.

Only turn the adjusting screw by hand, and do not use force.

Do not make any adjustments while riding.

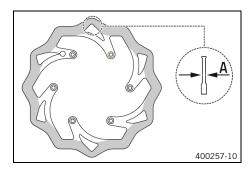
13.2 Checking brake discs



Warning

Danger of accidents Worn-out brake discs reduce the braking effect.

 Make sure that worn-out brake discs are replaced immediately. (Your authorized KTM workshop will be glad to help.)



 Check front and rear brake disc thickness at multiple points for the dimension A.



Info

Wear reduces the thickness of the brake disc around the contact surface of the brake linings.

Brake discs - wear limit	
front	3.6 mm (0.142 in)
rear	3.5 mm (0.138 in)

- » If the brake disc thickness is less than the specified value:
 - Change brake disc.
- Check front and rear brake discs for damage, cracking, and deformation.
 - » If the brake disc exhibits damage, cracking, or deformation:
 - Change brake disc.

•

13.3 Checking the front brake fluid level



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

 Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Check the brake fluid level in level viewer 1.
 - » If the brake fluid level has dropped below the $\bf MIN$ marking $\bf A$:

13.4 Adding front brake fluid 🔌



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the **MIN** marking, the brake system is leaking or the brake linings are worn down.

 Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



Note

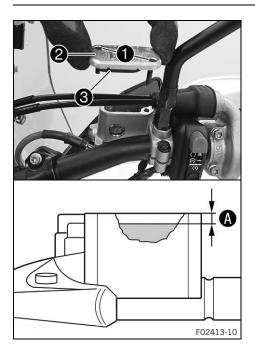
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



Info

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws 1.
- Take off cover **2** with membrane **3**.
- Add brake fluid to level A.

Guideline

Dimension (A) 5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (p. 164)

- Position cover **2** with membrane **3**.
- Mount and tighten screws 1.



Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.

13.5 Checking that the brake linings of the front brake are secured



Warning

Danger of accidents Worn-out brake linings reduce the braking effect.

 Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Damaged brake discs reduce the braking effect.

If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, the braking effect is greatly reduced and the brake discs are destroyed.

Check the brake linings regularly.

Check the brake linings for minimum thickness **A**.

≥ 1 mm (≥ 0.04 in) Minimum thickness (A)

- If the minimum thickness is less than specified:
 - Change the brake linings of the front brake. 4 (🕮 p. 93)
- Check the brake linings for damage and cracking.
 - If damage or wear is encountered:
 - Change the brake linings of the front brake. (🕮 p. 93)
- Check that the brake linings are secured.
 - If the brake linings are not secured correctly:
 - Secure brake linings, replace with new parts if necessary.

13.6 Changing the brake linings of the front brake 🔦



Warning

Danger of accidents Incorrect servicing will cause the brake system to fail.

Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.

If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the manufacturer warranty shall be void.

- Only use brake linings approved and recommended by KTM.



Note

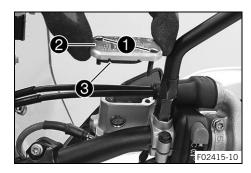
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

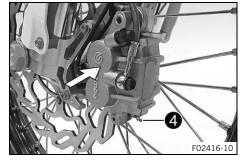


Info

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Move the brake fluid reservoir mounted on the handlebar to a horizontal position.
- Remove screws 1.
- Take off cover **2** with membrane **3**.



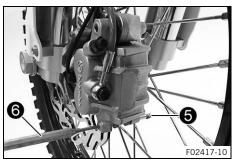
 Manually press the brake caliper toward the brake disc to push back the brake pistons. Ensure that brake fluid does not flow out of the brake fluid reservoir; extract some if necessary.

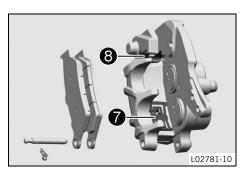


Info

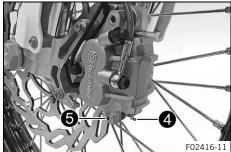
Make sure that you do not press the brake caliper against the spokes when pushing back the brake pistons.

- Remove cotter pin 4.
- Drive out pin 6 with drift 6 toward rim and remove brake linings.

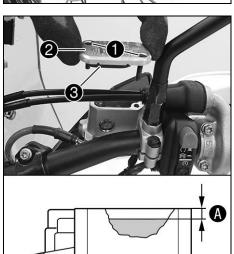




- Clean the brake caliper and the brake caliper bracket.
- Check that spring plate in the brake caliper and brake pad sliding plate in the brake caliper bracket are seated correctly.



Insert the new brake linings, insert pin 6, and mount cotter pin 4.



- Operate the hand brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
- Add brake fluid up to level (A).

Guideline

Dimension **(A)** 5 mm (0.2 in)

Brake fluid DOT 4 / DOT 5.1 (p. 164)

- Position cover 2 with membrane 3.
- Mount and tighten screws 1.



Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.

13.7 Checking the free travel of the foot brake lever

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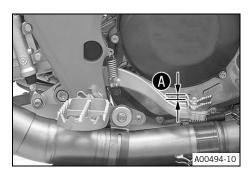


Warning

Danger of accidents The brake system will fail if it overheats or is adjusted incorrectly.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.
- Ensure that the adjustment steps are performed properly. (Your authorized KTM workshop will be glad to help.)



- Detach the spring from the foot brake lever.
- Move the foot brake lever back and forth between the end stop and the contact to the foot brake cylinder piston and check free travel (A).

Guideline

Free travel at the foot brake	3 5 mm (0.12 0.2 in)
lever	

- » If the free travel does not meet specifications:
- Attach the spring to the foot brake lever.

13.8 Adjusting the free travel of the foot brake lever 🔌

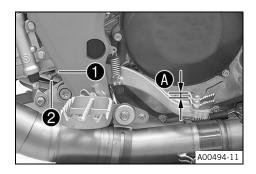


Warning

Danger of accidents The brake system will fail if it overheats or is adjusted incorrectly.

If there is no free travel on the foot brake lever, pressure builds up in the brake system on the rear brake.

- Set the free travel on the foot brake lever in accordance with the specification.
- Ensure that the adjustment steps are performed properly. (Your authorized KTM workshop will be glad to help.)



Loosen nut 1 and use screw 2 to adjust free travel A.
 Guideline

Free travel at the foot brake	3 5 mm (0.12 0.2 in)
lever	

Hold screw 2 and tighten nut 1.

Guideline

Remaining nuts,	M6	10 Nm (7.4 lbf ft)
chassis		

13.9 Checking the rear brake fluid level



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

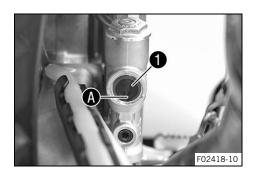
 Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



- Stand vehicle upright.
- Check the brake fluid level in level viewer 1.
 - » If the brake fluid level has dropped below the marking **A**:

13.10 Adding rear brake fluid 🔌



Warning

Danger of accidents An insufficient brake fluid level will cause the brake system to fail.

If the brake fluid level drops below the specified marking or the specified value, the brake system is leaking or the brake linings are worn down.

- Check the brake system and do not continue riding until the problem is eliminated. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



Note

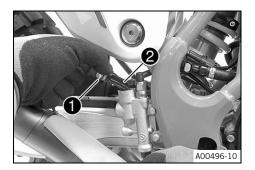
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



Info

Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Stand the vehicle upright.
- Remove screw cap 1 with the washer and membrane 2.
- Add brake fluid to the marking on the inside of the compensating tank.

Brake fluid DOT 4 / DOT 5.1 (p. 164)

Mount the screw cover with washer and the membrane.



Use water to immediately clean up any brake fluid that has overflowed or spilled.

13.11 Checking that the brake linings of the rear brake are secured



Warning

Danger of accidents Worn-out brake linings reduce the braking effect.

Ensure that worn-out brake linings are replaced immediately. (Your authorized KTM workshop will be glad to help.)

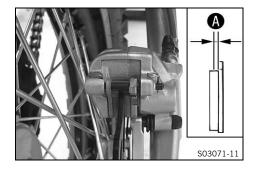


Warning

Danger of accidents Damaged brake discs reduce the braking effect.

If the brake linings are not changed in time, the brake lining carriers grind against the brake disc. As a consequence, the braking effect is greatly reduced and the brake discs are destroyed.

- Check the brake linings regularly.



Check the brake linings for minimum thickness **A**.

Minimum thickness A

≥ 1 mm (≥ 0.04 in)

- If the minimum thickness is less than specified:
 - Change the rear brake linings. **◄** (p. 98)
- Check the brake linings for damage and cracking.
 - If damage or wear is encountered:
- Check that the brake linings are secured.
 - If the brake linings are not secured correctly:
 - Secure brake linings, replace with new parts if necessary.

13.12 Changing the rear brake linings 4



Warning

Danger of accidents Incorrect servicing will cause the brake system to fail.

Ensure that service work and repairs are performed professionally. (Your authorized KTM workshop will be glad to help.)



Warning

Skin irritation Brake fluid is a harmful substance.

- Keep brake fluid out of the reach of children.
- Wear suitable protective clothing and safety glasses.
- Do not allow brake fluid to come into contact with the skin, the eyes or clothing.
- Consult a doctor immediately if brake fluid has been swallowed.
- Rinse the affected area with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water immediately and consult a doctor if brake fluid comes into contact with the eyes.
- If brake fluid spills on to your clothing, change the clothing.



Warning

Danger of accidents Brake fluid which is too old or of the wrong type impairs the function of the brake system.

- Make sure that brake fluid for the front and rear brake is changed in accordance with the service schedule. (Your authorized KTM workshop will be glad to help.)
- Make sure that only clean, approved brake fluid from a tightly sealed container is used. (Your authorized KTM workshop will be glad to help.)



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Warning

Danger of accidents Brake linings which have not been approved alter the braking efficiency.

Not all brake linings are tested and approved for KTM motorcycles. The structure and friction coefficient of the brake linings, and thus their brake power, may vary greatly from that of original brake linings.

If brake linings are used that differ from the original equipment, compliance with the original homologation is not guaranteed. In this case, the vehicle no longer corresponds to its condition at delivery and the manufacturer warranty shall be void.

Only use brake linings approved and recommended by KTM.



Note

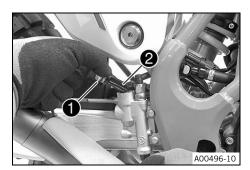
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.

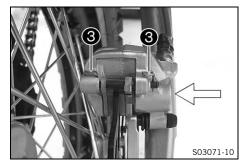


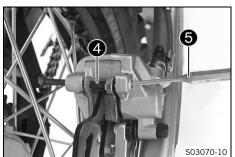
Info

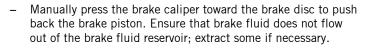
Avoid contact between brake fluid and painted parts. Brake fluid corrodes paint.



- Stand the vehicle upright.
- Remove screw cap 1 with the washer and membrane 2.





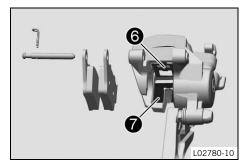




Info

Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.

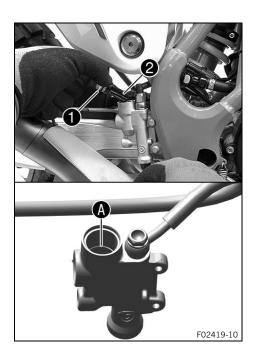
- Remove cotter pin 3.
- Drive out pin **4** with drift **5** toward rim and remove brake linings.



- Clean the brake caliper and the brake caliper bracket.
- Check that spring plate 6 in the brake caliper and brake pad sliding plate 7 in the brake caliper bracket are seated correctly.



Insert new brake linings (3), insert pin (4), and mount cotter pin.



- Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.
- Correct brake fluid level to marking **A**.

Brake fluid DOT 4 / DOT 5.1 (p. 164)

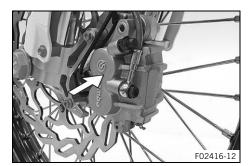
Mount and tighten screw cap with membrane and the shim.

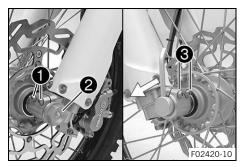


Info

Use water to immediately clean up any brake fluid that has overflowed or spilled.

14.1 Removing front wheel 🔦





Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)

Main work

 Press the brake caliper onto the brake disc by hand in order to push back the brake pistons.



Info

Make sure that you do not press the brake caliper against the spokes when pushing back the brake pistons.

- Loosen screws 1.
- Remove screw 2.
- Loosen screws 3.



Warning

Danger of accidents Damaged brake discs reduce the braking effect.

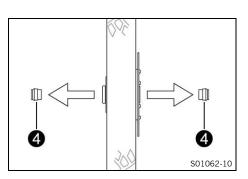
- Always lay the wheel down in such a way that the brake disc is not damaged.
- Hold front wheel and remove wheel spindle. Take the front wheel out of the fork.



Info

Do not actuate the hand brake lever when the front wheel is removed.

- Remove spacers **4**.



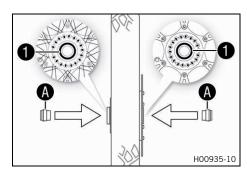
14.2 Installing the front wheel 4

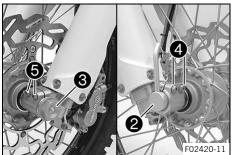


Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.





- Check the wheel bearing for damage and wear.
 - » If the wheel bearing is damaged or worn:
 - Change the wheel bearing.
- Clean and grease shaft seal rings and contact surfaces of the spacers. Clean and grease the radial shaft seal rings and the contact surface of the wheel spindle.

Long-life grease (p. 166)

- Insert the spacers.
- Position front wheel and insert wheel spindle 2.
 - ✓ The brake linings are correctly positioned.
- Mount and tighten screw 3.

Guideline

Screw, front wheel	M24x1.5	45 Nm (33.2 lbf ft)
spindle		



Info

Ensure that the grip of the wheel spindle does not contact with the right fork leg.

- Operate the hand brake lever several times until the brake linings are seated correctly against the brake disc.
- Remove motorcycle from the lift stand. (p. 56)
- Operate the front brake and compress the fork a few times firmly.
 - ✓ The fork legs straighten.
- Tighten screws 4 and 5.
 Guideline

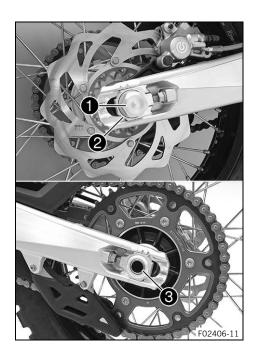
Screw, fork stub	M8	15 Nm (11.1 lbf ft)
------------------	----	---------------------

4

14.3 Removing rear wheel 🔌

Preparatory work

- Raise the motorcycle with a lift stand. (p. 56)



Main work

Press brake caliper onto the brake disc by hand in order to push back the brake piston.



Info

Make sure that you do not press the brake caliper against the spokes when pushing back the brake piston.

- Remove nut 1.
- Remove chain adjuster 2.
- Pull out wheel spindle **3** far enough to allow the rear wheel to be pushed forward.
- Push the rear wheel forward as far as possible. Remove chain from rear sprocket.



Info

Cover the components to protect them against damage.



Warning

Danger of accidents Damaged brake discs reduce the braking effect.

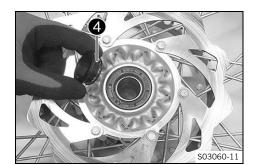
- Always lay the wheel down in such a way that the brake disc is not damaged.
- Hold the rear wheel and remove wheel spindle 3. Take the rear wheel out of the link fork.

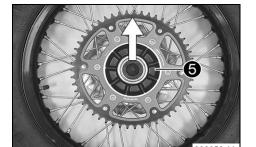


Info

Do not operate the foot brake lever when the rear wheel is removed.

Remove spacer 4.





Remove rear sprocket carrier 6.

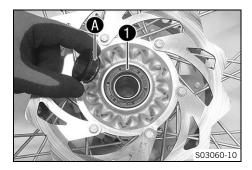
14.4 Installing the rear wheel 🔦



Warning

Danger of accidents Oil or grease on the brake discs reduces the braking effect.

- Always keep the brake discs free of oil and grease.
- Clean the brake discs with brake cleaner when necessary.



Main work

- Check rear hub damping rubber pieces. ⁴ (□ p. 106)
- Check the wheel bearing for damage and wear.
 - If the wheel bearing is damaged or worn:
 - Change the wheel bearing.
- Clean and grease shaft seal ring 1 and contact surface A of the spacer.

Long-life grease (p. 166)

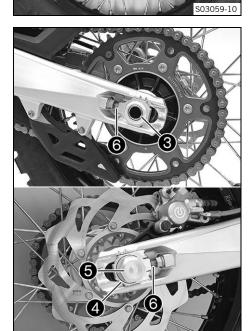
Insert a spacer.



Clean and grease the spacers of the rear sprocket carrier.

Long-life grease (p. 166)

Insert rear sprocket carrier **2** into the rear hub.



- Position rear wheel and insert wheel spindle **3**.
 - ✓ The brake linings are correctly positioned.
- Mount the chain.
- Position chain adjuster **4**. Mount nut **5**, but do not tighten
- Make sure that the chain adjusters are fitted correctly on the adjusting screws 6.
- Check chain tension. (p. 79)
- Tighten nut **6**.

Guideline

Nut, rear wheel spin-	M25x1.5	80 Nm (59 lbf ft)
dle		



F02421-10

The wide adjustment range of the chain adjusters enables different secondary ratios with the same chain

Chain adjusters 4 can be turned by 180°.

Operate the foot brake lever repeatedly until the brake linings are in contact with the brake disc and there is a pressure point.

Finishing work

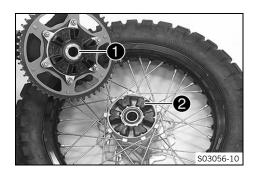
- Remove motorcycle from the lift stand. (p. 56)

14.5 Checking rear hub damping rubber pieces 🔌



Info

The engine power is transmitted from the rear sprocket to the rear wheel via the 6 damping rubber pieces. They eventually wear out during operation. If the damping rubber pieces are not changed in time, the rear sprocket carrier and the rear hub will be damaged.





Preparatory work

- Raise the motorcycle with a lift stand. (
 p. 56)
- Remove rear wheel. ♣ (♣ p. 103)

Main work

- Check bearing 1.
 - » If the bearing is damaged or worn:
 - Change the bearing.
- Check damping rubber pieces 2 of the rear hub for damage and wear
 - » If the damping rubber pieces of the rear hub are damaged or worn:
 - Change all the damping rubber pieces of the rear hub.
- Lay the rear wheel on a workbench with the rear sprocket facing upward and insert the wheel spindle in the hub.
- To check the play (A), hold the rear wheel tight and try to rotate the rear sprocket.



Info

Measure the play on the outside of the rear sprocket.

Play of damping rubber	≤ 5 mm (≤ 0.2 in)
pieces on rear wheel	

- » If clearance **A** is larger than the specified value:
 - Change all the damping rubber pieces of the rear hub.

Finishing work

- Remove motorcycle from the lift stand. (p. 56)

14.6 Checking tire condition



Info

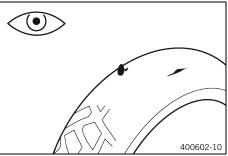
Only mount tires approved and/or recommended by KTM.

Other tires could have a negative effect on handling characteristics.

The type, condition, and pressure of the tires all have a major impact on the handling characteristic of the motorcycle.

The tires mounted on the front and rear wheels must have a similar profile.

Worn tires have a negative effect on handling characteristics, especially on wet surfaces.





- Check front and rear tires for cuts, run-in objects, and other
 - If the tires have cuts, run-in objects, or other damage:
 - Change tires.
- Check tread depth.

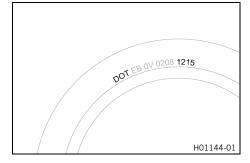


Info

Adhere to the legally required minimum tread depth.

Minimum tread depth	≥ 2 mm (≥ 0.08 in)

- If the tread depth is less than the minimum tread depth:
 - Change tires.
- Check tire age.





The tire date of manufacture is usually contained in the tire label and is indicated by the last four digits of the DOT number. The first two digits indicate the week of manufacture and the last two digits the year of manu-

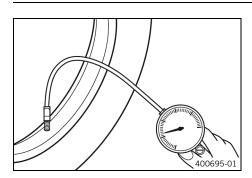
KTM recommends that the tires be changed after 5 years at the latest, regardless of the actual state of wear.

- If the tires are more than 5 years old:
 - Change tires.

14.7 Checking tire pressure



Low tire pressure leads to abnormal wear and overheating of the tire. Correct tire pressure ensures optimal riding comfort and maximum tire service life.



- Remove protection cap.
- Check tire pressure when the tires are cold.

Offroad tire pressure	
front	1.0 1.5 bar (15 22 psi)
rear	1.0 1.5 bar (15 22 psi)

Street tire pressure	
front	2.0 bar (29 psi)
rear	2.0 bar (29 psi)

- If the tire pressure does not meet specifications:
 - Correct the tire pressure.
- Mount protection cap.

14.8 Checking spoke tension

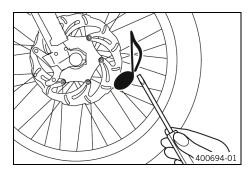


Warning

Danger of accidents Incorrectly tensioned spokes impair the handling characteristic and result in secondary damage.

The spokes break due to being overloaded if they are too tightly tensioned. If the tension in the spokes is too low, then lateral and radial run-out will form in the wheel. Other spokes will become looser as a result.

 Check spoke tension regularly, and in particular on a new vehicle. (Your authorized KTM workshop will be glad to help.)



Strike each spoke briefly using a screwdriver blade.



Info

The frequency of the sound depends on the spoke length and spoke diameter.

If you hear different tone frequencies from different spokes of equal length and diameter, this is an indication of different spoke tensions.

You should hear a high note.

- » If the spoke tension differs:
 - Correct the spoke tension.
- Check the spoke torque.

Guideline

Spoke nipple, front wheel	M4.5	5 6 Nm (3.7 4.4 lbf ft)
Spoke nipple, rear wheel	M5	5 6 Nm (3.7 4.4 lbf ft)

Torque wrench kit (58429094000)

15.1 Removing the 12-V battery 🔌



Warning

Risk of injury 12 V batteries contain harmful substances.

- Keep 12 V batteries out of the reach of children.
- Keep sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
 Minimum clearance 1 m (3 ft)
- Do not charge deeply discharged 12 V batteries if the charge is already below the minimum voltage.
 Minimum voltage before the start of the charge
 9 V
- Dispose of 12 V batteries correctly if they have less than the minimum voltage.

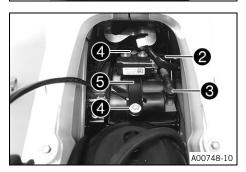


Preparatory work

- Remove the seat. (p. 68)

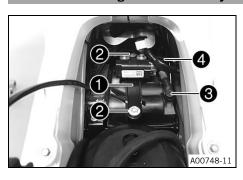
Main work

Pull fuel vapor valve off the holder and hang it to the side.



- Disconnect negative cable 2 from the 12-V battery.
- Disconnect positive cable **3** from the 12-V battery.
- Remove screws 4.
- Detach holder 6 to the rear.
- Lift out the 12-V battery.

15.2 Installing the 12-V battery 4



Main work

Insert the 12-V battery into the battery compartment.

Lithium-ion battery (🕮 p. 139)

- Attach holder ①.
- Mount and tighten screws 2.
- Connect positive cable 3 to the 12-V battery.
 Guideline

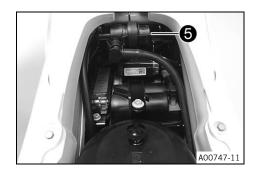
Nut, cable on 1	2-V M6	5 Nm (3.7 lbf ft)
battery		

Connect negative cable 4 to the 12-V battery.

Guideline

Nut, cable on 12-V	M6	5 Nm (3.7 lbf ft)
battery		

Position fuel vapor valve 6 on the holder.



Finishing work

Mount the seat. (
 p. 68)

15.3 Charging the 12-V battery 4



Warning

Risk of injury 12 V batteries contain harmful substances.

- Keep 12 V batteries out of the reach of children.
- Keep sparks and open flames away from 12 V batteries.
- Only charge 12 V batteries in well-ventilated rooms.
- Maintain a minimum clearance from inflammable materials when charging 12 V batteries.
 Minimum clearance 1 m (3 ft)
- Do not charge deeply discharged 12 V batteries if the charge is already below the minimum voltage.
 Minimum voltage before the start of the charge 9 V
- Dispose of 12 V batteries correctly if they have less than the minimum voltage.



Note

Environmental hazard 12 V batteries contain environmentally hazardous materials.

- Do not dispose of 12 V batteries as household waste.
- Dispose of 12 V batteries at a collection point for used batteries.



Info

Even when there is no load on the 12-V battery, it discharges steadily each day.

The charging voltage of the 12-V battery must not exceed 14.4 V.

The charging level and the method of charging are very important for the service life of the 12-V battery. If the charging current or charging voltage are exceeded, the 12-V battery will be irreparably damaged. If the 12-V battery is depleted by repeated starting, the 12-V battery must be charged immediately. If the 12-V battery is left in a discharged state for an extended period, it will become over-discharged and will be irreparably damaged.

The 12-V battery is maintenance-free.

Preparatory work

- Remove the seat. (🕮 p. 68)
- Disconnect the negative cable of the 12-V battery to avoid damage to the onboard electronics.



Main work

 Connect a battery charger to the 12-V battery. Switch on the battery charger.

Battery charger (79629974000)

It is impossible to overcharge the 12-V battery using this device. $\,$



Info

Only charge the 12-V battery with the specified battery charger.

This is the only way to ensure that a charging voltage of 14.4 V is not exceeded.

- Switch off the battery charger after charging and disconnect from the 12-V battery.
- Connect the negative cable to the 12-V battery.

Finishing work

Mount the seat. (
 p. 68)

15.4 Changing main fuse



Warning

Fire hazard Incorrect fuses overload the electrical system.

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.



Info

The main fuse protects all electrical power consumers of the vehicle. It is located in the starter relay housing under the seat.

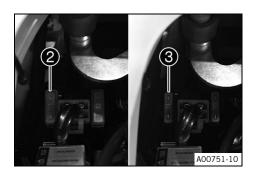
Preparatory work

- Remove the seat. (p. 68)

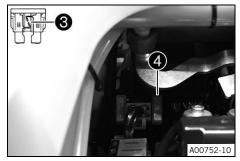
Main work

Pull fuel vapor valve off the holder and hang it to the side.





- Take off protection cap 2.
- Remove faulty main fuse 3.



Insert a new main fuse.

Fuse (58011109130) (🕮 p. 139)



Info

Replace a faulty fuse **3** by an equivalent fuse only. A spare fuse **4** is located in the starter relay.

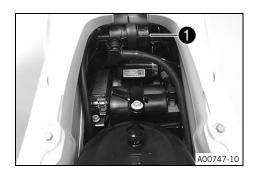
- Check that the electrical system is functioning properly.



Tip

Insert a spare fuse so that it is available if needed.

- Mount the protection caps.
- Pull fuel vapor valve off the holder and hang it to the side.



Finishing work

- Mount the seat. (p. 68)

15.5 Changing the fuses of individual electrical power consumers

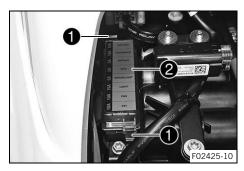


Info

The fuse box containing the fuses of individual electrical power consumers is located under the seat.

Preparatory work

- Remove the seat. (p. 68)



Main work

Push on locks 1 and take off fuse box cover 2.

Remove the faulty fuse.

Guideline

Fuse 1 - 10 A - ICO Speedocap, turn signal, instrument

Fuse 2 - 10 A - road book

Fuse 3 - 5 A - Iritrack

Fuse **4** - 5 A - GPS

Fuse **5** - 5 A - brake light, coolant temperature indicator lamp, oil pressure warning lamp, horn

Fuse 6 - 15 A - high beam, low beam, position light, road book lighting, tail light

Fuse 7 - 10 A - radiator fan

Fuse 8 - 10 A - front fuel pump, rear fuel pump, diagnostics, EFI, lambda sensor heater, map switch, malfunction indicator lamp, fuel vapor valve



Info

A faulty fuse has a burned-out fuse wire **A**.





Warning

Fire hazard Incorrect fuses overload the electrical sys-

- Only use fuses with the required ampere value.
- Do not bypass or repair fuses.
- Insert the spare fuse with the correct rating.

Fuse (58011109105) (p. 139)

Fuse (58011109110) (p. 139)

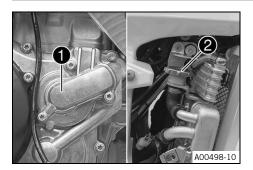
Fuse (58011109115) (p. 139)

- Check the function of the electrical power consumer.
- Close the fuse box cover.

Finishing work

Mount the seat. (p. 68)

16.1 Cooling system



Water pump **1** in the engine ensures forced circulation of the coolant.

The pressure resulting from the warming of the cooling system is regulated by a valve in radiator cap **2**. This ensures that operating the vehicle at the specified coolant temperature will not result in a risk of malfunctions.

120 °C (248 °F)

Cooling is effected by the air stream.

The lower the speed, the less the cooling effect. Dirty cooling fins also reduce the cooling effect.

Additional cooling is provided by the radiator fan, which is activated at high temperature.

16.2 Checking the antifreeze and coolant level



Warning

Danger of scalding During motorcycle operation, the coolant gets hot and is under pressure.

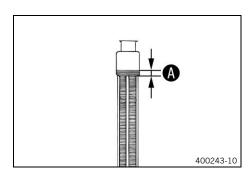
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition

The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the antifreeze in the coolant.

- If the antifreeze in the coolant does not match the specified value:
 - Correct the antifreeze in the coolant.
- Check the coolant level in the radiator.

Coolant level (A) above the radiator fins	10 mm (0.39 in)
--	-----------------

- » If the coolant level does not match the specified value:
 - Correct the coolant level.

Coolant (@ p. 164)

Mount the radiator cap.

16.3 Checking the coolant level



Warning

Danger of scalding During motorcycle operation, the coolant gets hot and is under pressure.

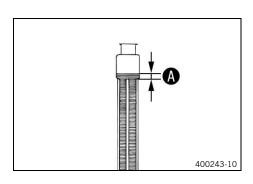
- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses
 or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Condition

The engine is cold.

- Stand the motorcycle upright on a horizontal surface.
- Remove the radiator cap.
- Check the coolant level in the radiator.

Coolant level (A) above the radiator fins	10 mm (0.39 in)

- » If the coolant level does not match the specified value:
 - Correct the coolant level.

Coolant (p. 164)

Mount the radiator cap.

16.4 Draining the coolant 4



Warning

Danger of scalding During motorcycle operation, the coolant gets hot and is under pressure.

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses
 or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.

Warning

Danger of poisoning Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.

Condition

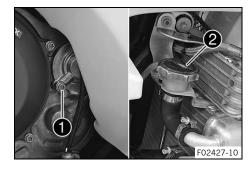
The engine is cold.

Preparatory work

Main work

- Position the motorcycle upright.
- Place an appropriate container under the water pump cover.
- Remove screw 1. Take off radiator cap 2.
- Completely drain the coolant.
- Mount and tighten screw with a new seal ring.
 Guideline

Screw, water pump	M6	10 Nm (7.4 lbf ft)
cover		



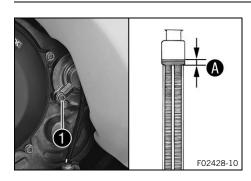
16.5 Refilling with coolant 🔌



Warning

Danger of poisoning Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



Main work

- Make sure that screw 1 is tightened.
- Position the motorcycle upright.
- Pour coolant in up to measurement A above the radiator fins.
 Guideline

Coolant level (A) above the radiator fins	10 mm (0.39 in)
Coolant (IP p. 164)	1.0 l (1.1 qt.)

Mount the radiator cap.

Finishing work

- Install the engine guard. (p. 89)
- Go for a short test ride.

16.6 Changing the coolant



Warning

Danger of scalding During motorcycle operation, the coolant gets hot and is under pressure.

- Do not open the radiator, the radiator hoses or other cooling system components if the engine or the cooling system are at operating temperature.
- Allow the cooling system and the engine to cool down before you open the radiator, the radiator hoses
 or other components of the cooling system.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Warning

Danger of poisoning Coolant is harmful to health.

- Keep coolant out of the reach of children.
- Do not allow coolant to come into contact with the skin, the eyes and clothing.
- Consult a doctor immediately if coolant is swallowed.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse eyes thoroughly with water and consult a doctor immediately if coolant gets into the eyes.
- Change clothing if coolant spills onto your clothing.



The engine is cold.

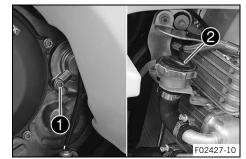
Preparatory work

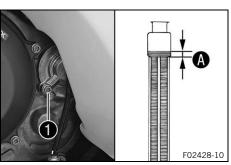
- Remove the engine guard. (p. 89)





- Place an appropriate container under the water pump cover.
- Remove screw 1. Take off radiator cap 2.
- Completely drain the coolant.





Mount and tighten screw with a new seal ring.
 Guideline

Screw, water pump	M6	10 Nm (7.4 lbf ft)
cover		

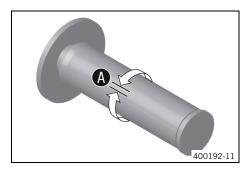
Pour coolant in up to level above the radiator fins.
 Guideline

Distance A above the radiator fins	10 mm (0.39 in)
Coolant (@ p. 164)	1.0 l (1.1 qt.)

- Mount the radiator cap.
- Go for a short test ride.
- Check the coolant level. (
 p. 115)

Finishing work

17.1 Checking the play in the throttle cable



- Check the throttle grip for smooth operation.
- Move the handlebar to the straight-ahead position. Turn the throttle grip back and forth slightly and determine the play in throttle cable A.

Play in throttle cable 3 ... 5 mm (0.12 ... 0.2 in)

- » If the throttle cable play does not meet the specified value:
 - Adjust the play in the throttle cable. ♣ (♠ p. 119)



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.
- Start the engine and let it run at idle speed. Move the handlebar to and fro over the entire steering range.

The idle speed must not change.

- » If the idle speed changes:

17.2 Adjusting the play in the throttle cable 4

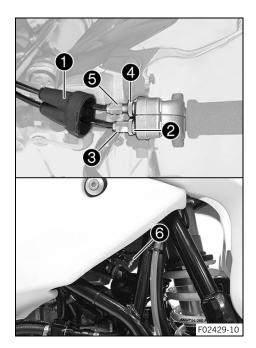


Info

If the correct routing of the throttle cables has already been secured, the fuel tank does not need to be removed.

Preparatory work

- Remove front right fuel tank. 🔌 (🕮 p. 74)
- Check the throttle cable routing. (
 p. 83)



Main work

- Move the handlebar to the straight-ahead position.
- Push back sleeve 1.
- Loosen nut 2.
- Turn adjusting screw 3 in as far as possible.
- Loosen nut 4.
- Push cold start button **6** all the way to the stop.
- Turn adjusting screw **5** so that the cold start button moves to the basic position when the throttle grip is turned to the front.
- Tighten nut **4**.
- Turn adjusting screw 3 so that there is play in the throttle cable at the throttle grip.

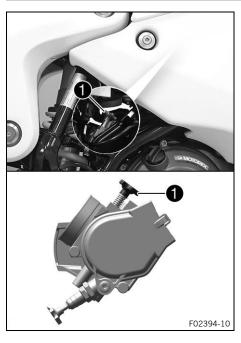
Guideline

- Tighten nut 2.
- Slide on sleeve 1.
- Check the throttle grip for smooth operation.

Finishing work

- Install the front right fuel tank. ◄ (□ p. 76)
- Install the engine guard. (p. 89)
- Mount side cover. (
 p. 88)
- Mount the seat. (
 p. 68)
- Check the play in the throttle cable. (p. 119)

17.3 Adjusting the idle speed 🔌



- Run the engine until warm.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.
- Adjust the idle speed by turning the idle speed adjusting screw.

Guideline

Idle speed $2,400 \pm 200 \text{ rpm}$



Info

Turn counterclockwise to increase the idle speed. Turn clockwise to decrease the idle speed.

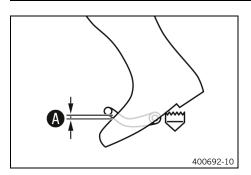
_

17.4 Checking basic position of the shift lever

i

Info

When driving, the shift lever must not touch the rider's boot when in the basic position. When the shift lever keeps touching the boot, the transmission will be subject to an excessive load.

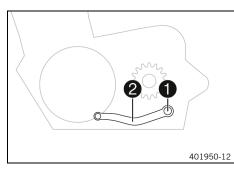


 Sit on the vehicle in the riding position and determine distance between the upper edge of your boot and the shift lever.

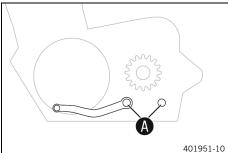
Distance between shift lever	10 20 mm (0.39
and upper edge of boot	0.79 in)

- If the distance does not meet specifications:
 - Adjust the basic position of the shift lever. ◀
 (□ p. 121)

17.5 Adjusting the basic position of the shift lever 🔌



 Remove screw 1 with the washers and take off shift lever 2.



- Clean gear teeth **A** of the shift lever and shift shaft.
- Mount shift lever **2** on the shift shaft in the required position and engage the gearing.



Info

The range of adjustment is limited.

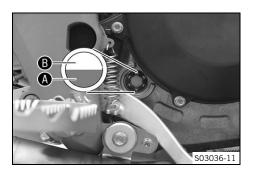
The shift lever must not come into contact with any other vehicle components during the shift procedure.

Mount and tighten screw 1 with washers.

Guideline

Screw, shift	M6	14 Nm (10.3 lbf ft)
lever		Loctite®243™

18.1 Checking the engine oil level



Preparatory work

Stand the motorcycle upright on a horizontal surface.

The engine is at operating temperature.

Check the engine oil level.



Info

After switching off the engine, wait one minute before checking the level.

The engine oil level is between \mathbf{A} and \mathbf{B}

- When the engine oil level is below the **A** marking:
 - Add engine oil. (
 p. 126)
- When the engine oil level is at or above the **B** mark-
 - Correct the engine oil level.

18.2 Changing the engine oil and oil filter, cleaning the oil screens 4



Warning

Danger of scalding Engine and gear oil get hot when the motorcycle is operated.

- Wear suitable protective clothing and safety gloves.
- In the event of scalding, rinse the area affected immediately with lukewarm water.



Note

Environmental hazard Hazardous substances cause environmental damage.

Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



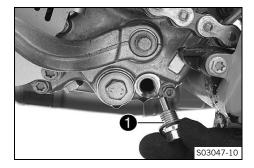
Info

Drain the engine oil while the engine is at operating temperature.

Preparatory work

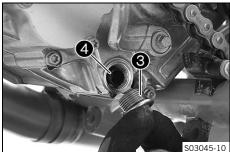
- Park the motorcycle on a level surface.
- Remove the engine guard. (p. 89)

- Position an appropriate container under the engine.
- Remove oil drain plug 1 with the magnet and seal ring.

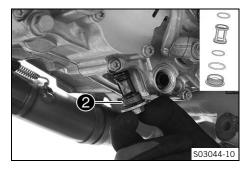




Remove screw plug with the short oil screen and the O-rings.



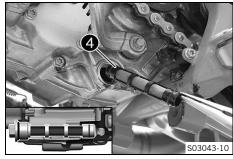
- Remove screw plug 3 with long oil screen 4 and the 0-rings.
- Allow the engine oil to drain completely.
- Thoroughly clean the parts and the sealing surfaces.



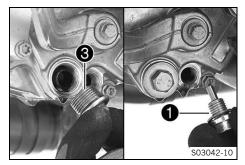
 Mount and tighten screw plug 2 with the short oil screen and the O-rings.

Guideline

Screw plug, oil	M20x1.5	15 Nm (11.1 lbf ft)
screen		



- Position oil screen 4 with the O-rings on a pin wrench.
- Position the pin wrench through the drill hole of the screw plug in the opposite section of the engine case.
- Push the oil screen all the way into the engine case.



- Mount and tighten screw plug **3** with the O-ring.

Guideline

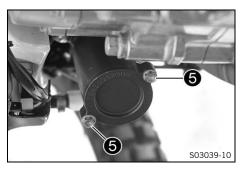
Screw plug, oil	M20x1.5	15 Nm (11.1 lbf ft)
screen		

Mount and tighten oil drain plug with the magnet and a new seal ring.

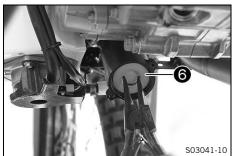
Guideline

Oil drain plug with	M12x1.5	20 Nm (14.8 lbf ft)
magnet		

18 SERVICE WORK ON THE ENGINE



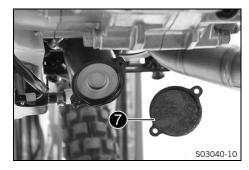
- Remove screws **5**. Take off the oil filter cover with the Oring.



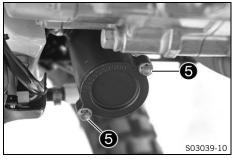
Pull oil filter 6 out of the oil filter housing.

Lock ring plier (51012011000)

- Allow the engine oil to drain completely.
- Thoroughly clean the parts and the sealing surface.
- Insert the new oil filter.

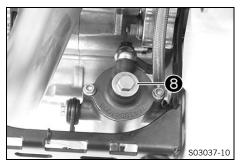


 Lubricate the O-ring of the oil filter cover and mount it with oil filter cover 7.

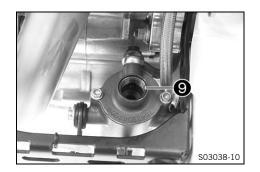


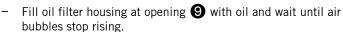
- Mount and tighten screws **5**. Guideline

Screw, oil filter cover	M6	10 Nm (7.4 lbf ft)
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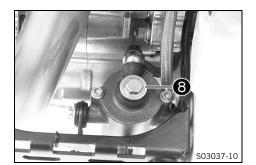


Remove oil filler plug 3 with the O-ring from the upper oil filter cover.



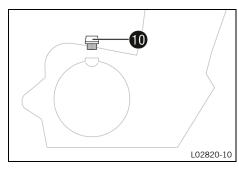


Total filling level, oil change		
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (🕮 p. 164)
Total filling level, engine service (with oil radiator)		
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (🕮 p. 164)



Mount and tighten filler plug **3**.
 Guideline

Filler plug on the oil	M20x1.5	8 Nm (5.9 lbf ft)
filter housing		



Remove filler plug to from the clutch cover together with the O-ring, and fill up with engine oil.

Total filling level, oil change		
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (🕮 p. 164)
Total filling level, engine service (with oil radiator)		
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (🕮 p. 164)



Info

Too little engine oil or poor-quality engine oil will result in premature wear of the engine.

Mount and tighten the filler plug together with the O-ring.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.
- Start the engine and check it for leaks.

Finishing work

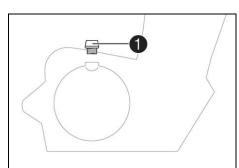
- Check the engine oil level. (p. 122)
- Install the engine guard. (
 p. 89)

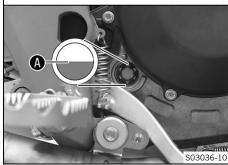
18.3 Adding engine oil



Info

Too little engine oil or poor-quality engine oil results in premature wear to the engine.





Main work

- Remove oil filler plug with the O-ring from the clutch cover.
- Fill engine oil to the middle f A of the level viewer.
- Add the same engine oil that was used when the motor was changed.

Engine oil (SAE 10W/50) (p. 164)



Info

For optimal performance of the engine oil, do not mix different types of engine oil.

We recommend making an oil change in this case.

- Install and tighten the oil filler plug with O-ring.



Danger

Danger of poisoning Exhaust gases are toxic and inhaling them may result in unconsciousness and death.

- Always make sure there is sufficient ventilation when running the engine.
- Use effective exhaust extraction when starting or running the engine in an enclosed space.
- Start the engine and check that it is oil-tight.

Finishing work

Check the engine oil level. (
 p. 122)

•

19.1 Cleaning the motorcycle

Note

Material damage Components become damaged or destroyed if a pressure cleaner is used incorrectly.

The high pressure forces water into the electrical components, connectors, throttle cables, and bearings, etc. Pressure which is too high causes malfunctions and destroys components.

- Do not direct the water jet directly on to electrical components, connectors, throttle cables or bearings.
- Maintain a minimum distance between the nozzle of the pressure cleaner and the component.
 Minimum clearance
 60 cm (23.6 in)



Note

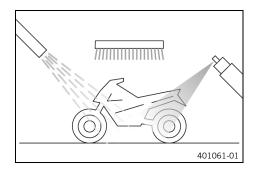
Environmental hazard Hazardous substances cause environmental damage.

 Dispose of oils, grease, filters, fuel, cleaning agents, brake fluid, etc., correctly and in compliance with the applicable regulations.



Info

To maintain the value and appearance of the motorcycle over a long period, clean it regularly. Avoid direct sunshine when cleaning the motorcycle.



- Close off exhaust system to keep water from entering.
- Remove loose dirt first with a soft jet of water.
- Spray the heavily soiled parts with a normal commercial motorcycle cleaner and clean using a brush.



Info

Use warm water containing normal motorcycle cleaner and a soft sponge.

Never apply motorcycle cleaner to a dry vehicle; always rinse the vehicle with water first.

- After rinsing the motorcycle with a gentle spray of water, allow it to dry thoroughly.
- Remove the closure of the exhaust system.



Warning

Danger of accidents Moisture and dirt impair the brake system.

- Brake carefully several times to dry out and remove dirt from the brake linings and the brake discs.
- After cleaning, ride the vehicle a short distance until the engine warms up.



Info

The heat produced causes water at inaccessible locations in the engine and on the brake system to evaporate.

- Push back the protection caps of the handlebar controls to allow any water that has penetrated to evaporate.
- After the motorcycle has cooled down, lubricate all moving parts and pivot points.
- Clean the chain. (p. 78)

- Treat bare metal (except for brake discs and the exhaust system) with a corrosion inhibitor.
- Treat all plastic parts and powder-coated parts with a mild cleaning and care product.

Preserving materials for paints, metal and rubber ($\ensuremath{\mbox{\ensuremath{\bowtie}}}$ p. 166)

- Oil steering lock.

Universal oil spray (p. 167)

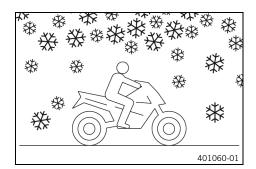
19.2 Checks and maintenance steps for winter operation



Info

If you use the motorcycle in winter, salt can be expected on the roads. You should therefore take precautions against aggressive road salt.

If the vehicle was operated in road salt, clean it with cold water after riding. Warm water would enhance the corrosive effects of salt.



- Clean the motorcycle. (p. 127)
- Clean brake system.



Info

After **EVERY** trip on salted roads, thoroughly clean the brake calipers and brake linings, after they have cooled down and without removing them, with cold water and dry them carefully.

After riding on salted roads, thoroughly clean the motorcycle with cold water and dry it well.

 Treat engine, link fork, and all other bare or zinc-plated parts (except the brake discs) with a wax-based corrosion inhibitor.



Info

Corrosion inhibitor must not come in contact with the brake discs as this would greatly reduce the braking force.

– Clean the chain. (🕮 p. 78)

20.1 Storage



Warning

Danger of poisoning Fuel is harmful to health.

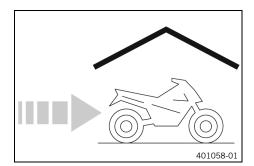
- Avoid skin, eye and clothing contact with fuel.
- Immediately consult a doctor if you swallow fuel.
- Do not inhale fuel vapors.
- Rinse the affected area immediately with plenty of water in the event of contact with the skin.
- Rinse the eyes thoroughly with water, and consult a doctor in case of fuel contact with the eyes.
- Change your clothing if fuel spills on them.
- Keep fuels correctly in a suitable canister, and out of the reach of children.



Info

If you plan to garage the motorcycle for a longer period, perform the following steps or have them performed.

Before storing the motorcycle, check all parts for function and wear. If service, repairs, or replacements are necessary, you should do this during the storage period (less workshop overload). In this way, you can avoid long workshop waiting times at the start of the new season.



- When refueling for the last time before taking the motorcycle out of service, add fuel additive.
- Refuel. (
 p. 42)



Tip

Fill the fuel tank completely as specified, using fuel with the lowest possible ethanol content.

- Clean the motorcycle. (
 p. 127)
- Change the engine oil and the oil filter, clean the oil screens. ◄ (♠ p. 122)
- Check the antifreeze and coolant level. (
 p. 114)
- Check tire pressure. (p. 107)
- Remove the 12-V battery. ♣ (♠ p. 109)
- Charge the 12-V battery. ❖ (ՀՀ p. 110)

Guideline

Storage temperature of the 12-V battery without direct sunlight	0 35 °C (32 95 °F)
Charging level of the 12-V battery for storage	50 75 %

 Store the vehicle in a dry location that is not subject to large fluctuations in temperature.



Info

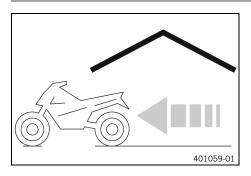
KTM recommends jacking up the motorcycle.

- Raise the motorcycle with a lift stand. (p. 56)
- Cover the vehicle with a tarp or a similar cover that is permeable to air.

Info

Do not use non-porous materials since they prevent humidity from escaping, thus causing corrosion. Avoid running the engine for a short time only. Because the engine will not warm up sufficiently, the water vapor produced during combustion will condense, causing engine parts and the exhaust system to rust.

20.2 Preparing for use after storage



- Remove motorcycle from the lift stand. (
 p. 56)
- Install the 12-V battery. ◀ (♣ p. 109)
- Perform checks and maintenance steps when preparing for use. (♠ p. 39)
- Take a test ride.

Faults	Possible cause	Action
The engine does not turn when	Operating error	– Carry out start procedure. (p. 39)
the start button is pressed	12-V battery discharged	– Charge the 12-V battery. ❖ (🕮 p. 110)
		 Check charging voltage.
		 Check the open-circuit current.
		 Check the stator winding of the alternator.
	Main fuse blown	- Change the main fuse. (🕮 p. 111)
	Starter relay defective	 Check the starter relay. ⁴
	Starter motor defective	 Check the starter motor.
The engine turns but does not	Operating error	- Carry out start procedure. (p. 39)
start	Quick release coupling not joined	- Join the quick release coupling.
	Fuse 8 is blown	- Change the fuses of individual electrical power consumers. (p. 112)
	Idle speed is not set correctly	 Adjust the idle speed. ◄ (□ p. 120)
	Spark plug oily or wet	 Clean and dry the spark plug, or change it if necessary.
	Plug gap of spark plug too wide	 Adjust plug gap. Guideline Spark plug electrode gap 0.8 mm (0.031 in)
	Faulty ignition system	 Check the ignition system.
	Short-circuit cable in wiring harness frayed, stop button	Check the wiring harness. (visual check)
	faulty	 Check the electrical system.
	Malfunction in the electronic fuel injection	 Read out fault memory using the KTM diagnostics tool. <a>▲
Engine does not speed up	Malfunction in the electronic fuel injection	 Read out fault memory using the KTM diagnostics tool. <a>▲
	Faulty ignition system	 Ignition coil - check the secondary winding. ▲
		 Check the spark plug connector.
		 Check the stator winding of the alternator.
Engine has too little power	Air filter is very dirty	 Clean the air filter and air filter box. ⁴ (♠ p. 69)
	Fuel filter is very dirty	 Change the fuel filter. ⁴
	Malfunction in the electronic fuel injection	 Read out fault memory using the KTM diagnostics tool.
	Exhaust system leaky,	 Check exhaust system for damage.
	deformed or too little glass fiber yarn filling in main silencer	 Change the glass fiber yarn filling of the main silencer. ♣ (♠ p. 71)
	Valve clearance too little	 Adjust the valve clearance. ⁴
	Faulty ignition system	 Ignition coil - check the secondary winding.
		 Check the spark plug connector.
		 Check the stator winding of the alternator.

Faults	Possible cause	Act	ion
The engine dies during the trip	Lack of fuel	_	Refuel. (🕮 p. 42)
Engine overheats	Too little coolant in cooling sys-	_	Check the cooling system for leaks.
	tem		Check the coolant level. (p. 115)
	Too little air stream	_	Switch off the engine when standing.
	Radiator fins very dirty	_	Clean the radiator fins.
	Foam formation in cooling sys-	_	Drain the coolant. ♣ (♀ p. 115)
	tem	_	Refill with coolant. 🌂 (🕮 p. 116)
	Bent radiator hose	_	Change the radiator hose.
	Thermostat defective	_	Check the thermostat. ❖
	Defect in radiator fan system	_	Check fuse 7.
		_	Check the radiator fan.
FI warning lamp (MIL) lights up/flashes	Malfunction in the electronic fuel injection	-	Stop motorcycle and identify faulty component using the blink code.
			Info See blink code
		_	Check wiring for damage and electrical plug-in connectors for corrosion and damage.
		-	Read out fault memory using the KTM diagnostics tool.
High oil consumption	Engine vent hose bent	-	Route the vent hose without bends or change it if necessary.
	The engine oil level is too high	_	Check the engine oil level. (🕮 p. 122)
	The engine oil is too thin (low viscosity)	-	Change the engine oil and the oil filter, clean the oil screens. ◀ (興 p. 122)
	Piston and cylinder worn	-	Measure the piston/cylinder mounting clearance.
12-V battery discharged	The 12-V battery is not being	-	Check charging voltage.
	charged by the alternator	-	Check the stator winding of the alternator.
	Unwanted electrical power consumer	-	Check the open-circuit current. ◀
Combination instrument values deleted (time, stop watch, lap times)	The combination instrument battery is empty	-	Change combination instrument battery.
The turn signal and the combination instrument are not working	Fuse 1 is blown	-	Change the fuses of individual electrical power consumers. (p. 112)
The brake light is not working	Fuse 5 is blown	-	Change the fuses of individual electrical power consumers. (p. 112)
The high beam, low beam, position light, tail light, license plate lamp, and horn are not working	Fuse 6 is blown	_	Change the fuses of individual electrical power consumers. (p. 112)

The blink codes are only displayed by the derestricted version of the vehicle.

Blink code FI warning lamp (MIL)	Fi
	02 FI warning lamp (MIL) flashes 2x briefly
Error level condition	Crankshaft speed sensor – circuit fault
Blink code FI warning lamp (MIL)	Fi 06 FI warning lamp (MIL) flashes 6x briefly
Error level condition	Throttle valve position sensor circuit A – input signal too low
	Throttle valve position sensor circuit A – input signal too high
Blink code FI warning lamp (MIL)	Fi 09 FI warning lamp (MIL) flashes 9x briefly
Error level condition	Induction manifold pressure sensor cylinder 1 – input signal too low
	Induction manifold pressure sensor cylinder 1 – input signal too high
Blink code FI warning lamp (MIL)	Fi 12 FI warning lamp (MIL) flashes 1x long, 2x briefly
Error level condition	Coolant temperature sensor – input signal too low
	Coolant temperature sensor – input signal too high
Blink code FI warning lamp (MIL)	Fi 13 FI warning lamp (MIL) flashes 1x long, 3x briefly
Error level condition	Intake air temperature sensor – input signal too low
	Intake air temperature sensor – input signal too high
Blink code FI warning lamp (MIL)	Fi 15 FI warning lamp (MIL) flashes 1x long, 5x briefly
Error level condition	Rollover sensor (A/D type) - input signal too low
	Rollover sensor (A/D type) - input signal too high
Blink code FI warning lamp (MIL)	Fi 33 FI warning lamp (MIL) flashes 3x long, 3x briefly
Error level condition	Injector cylinder 1 - circuit fault
Blink code FI warning lamp (MIL)	Fi 37 FI warning lamp (MIL) flashes 3x long, 7x briefly
Error level condition	Ignition coil 1, cylinder 1 - circuit fault

Blink code FI warning lamp (MIL)	Fi 41 FI warning lamp (MIL) flashes 4x long, 1x briefly
Error level condition	Fuel pump relay - short circuit to ground or open circuit
	Open/short circuit to plus

23.1 Engine

Design	1-cylinder 4-stroke engine, water-cooled
Displacement	449.3 cm ³ (27.418 cu in)
Stroke	63.4 mm (2.496 in)
Bore	95 mm (3.74 in)
Compression ratio	12.6:1
Idle speed	2,400 ± 200 rpm
Control	OHC, 4 valves controlled via rocker arm
Valve diameter, intake	40 mm (1.57 in)
Valve diameter, exhaust	33 mm (1.3 in)
Valve clearance	
Intake at: 20 °C (68 °F)	0.10 0.15 mm (0.0039 0.0059 in)
Exhaust at: 20 °C (68 °F)	0.12 0.17 mm (0.0047 0.0067 in)
Crankshaft bearing	2-cylinder roller bearing
Conrod bearing	Slide bearing
Piston pin bearing	No bearing bush - DLC coated piston pin
Pistons	Forged light alloy
Piston rings	1 compression ring, 1 oil scraper ring
Engine lubrication	Pressure circulation lubrication with 2 trochoidal pumps
Primary transmission	31:76
Clutch	Multidisc clutch in oil bath, hydraulically activated
Gearbox	6-gear transmission, claw shifted
Transmission ratio	·
first-gear	16:32
second-gear	18:28
third-gear	20:28
fourth-gear	22:26
fifth-gear	24:24
sixth-gear	27:23
Alternator	12 V, 200 W
Ignition	Contactless controlled fully electronic ignition with digital ignition adjustment
Spark plug	NGK LMAR9AI-8
Spark plug electrode gap	0.8 mm (0.031 in)
Cooling	Water cooling, permanent circulation of coolant by water pump
Starting aid	Starter motor

Screw, oil nozzle for piston cooling M4	2 Nn	n (1.5 lbf ft)
		Loctite®243™
Crankshaft speed sensor screw and cable retainer	6 Nn	n (4.4 lbf ft) Loctite®243™
Oil nozzle for clutch lubrication M5	2 Nn	n (1.5 lbf ft) Loctite®243™
Oil nozzle, piston cooling M5	2 Nn	n (1.5 lbf ft) Loctite®243™
Oil nozzle, rocker arm lubrication M5	2 Nn	n (1.5 lbf ft) Loctite®243™
Screw, bearing retainer M5	6 Nm	n (4.4 lbf ft) Loctite®243™
Screw, clutch spring retainer M5	6 Nn	n (4.4 lbf ft)
Screw, gear position sensor M5		n (3.7 lbf ft)
Screw, locking lever M5	6 Nm	n (4.4 lbf ft) Loctite®243™
Screw, stator M5	6 Nm	n (4.4 lbf ft)
Screw, suction pump cover M5	6 Nm	n (4.4 lbf ft) Loctite®243™
Nut, water pump impeller M6	6 Nn	n (4.4 lbf ft) Loctite®243™
Screw, alternator cover M6	10 N	Im (7.4 lbf ft)
Screw, bearing bolt, torque limiter M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, camshaft retaining bracket M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, clutch cover M6	10 N	Im (7.4 lbf ft)
Screw, cylinder head M6	10 N	Im (7.4 lbf ft)
Screw, engine case M6	10 N	Im (7.4 lbf ft)
Screw, exhaust flange M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, fuel vapor retention system M6 lock	5 Nn	n (3.7 lbf ft) Loctite®243™
Screw, oil filter cover M6	10 N	Im (7.4 lbf ft)
Screw, pressure pump cover M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, shift drum locating M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, shift lever M6	14 N	Im (10.3 lbf ft) Loctite®243™
Screw, starter motor M6	10 N	Im (7.4 lbf ft)
Screw, timing chain clip M6	10 N	Im (7.4 lbf ft) Loctite®243™
Screw, timing chain tensioner M6	10 N	Im (7.4 lbf ft)

Screw, timing chain tensioning rail	M6	10 Nm (7.4 lbf ft) Loctite®243™
	110	
Screw, valve cover	M6	10 Nm (7.4 lbf ft)
Screw, water pump cover	M6	10 Nm (7.4 lbf ft)
Oil nozzle for conrod bearing lubrication	M6x0.75	2 Nm (1.5 lbf ft)
Plug, oil channel	M7	9 Nm (6.6 lbf ft)
		Loctite®243™
Screw, rocker arm bearing	M7x1	15 Nm (11.1 lbf ft)
Crankshaft clamp screw plug	M8	10 Nm (7.4 lbf ft)
Plug, timing chain tensioner	M8	8 Nm (5.9 lbf ft)
Plug, oil channel	M10	15 Nm (11.1 lbf ft)
		Loctite®243™
Screw, engine sprocket	M10	60 Nm (44.3 lbf ft)
		Loctite®2701™
Spark plug	M10x1	10 12 Nm (7.4 8.9 lbf ft)
Coolant temperature sensor	M10x1.25	12 Nm (8.9 lbf ft)
Screw plug, rocker arm shaft	M10x1.25	10 Nm (7.4 lbf ft)
Screw, cylinder head	M10x1.25	1st stage
		10 Nm (7.4 lbf ft)
		2nd stage
		30 Nm (22.1 lbf ft)
		3rd stage
		50 Nm (36.9 lbf ft)
		Collar and thread oiled
Nut, rotor	M12x1	60 Nm (44.3 lbf ft)
		Thread, oiled with engine oil/cone
		degreased
Oil drain plug with magnet	M12x1.5	20 Nm (14.8 lbf ft)
Screw plug, oil pressure control valve	M12x1.5	20 Nm (14.8 lbf ft)
Nut, inner clutch hub	M18x1.5	80 Nm (59 lbf ft)
Filler plug on the oil filter housing	M20x1.5	8 Nm (5.9 lbf ft)
Nut, primary gear wheel	M20LHx1.5	100 Nm (73.8 lbf ft)
		Loctite®243™
Screw plug, oil screen	M20x1.5	15 Nm (11.1 lbf ft)

23.3 **Capacities**

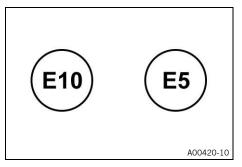
Engine oil 23.3.1

Total filling level, oil change			
Engine oil	1.40 l (1.48 qt.)	Engine oil (SAE 10W/50) (🕮 p. 164)	
Total filling level, engine service (with oil radiator)			
Engine oil	1.80 l (1.9 qt.)	Engine oil (SAE 10W/50) (p. 164)	

23.3.2 Coolant

Coolant (IP p. 164)	1.0 l (1.1 qt.)

23.3.3 Fuel



Please observe the labels on EU fuel pumps. In the homologated condition, only the left front fuel tank may be used.

Front left fuel tank, approx.		
Super unleaded (ROZ 95) (p. 165)	8.0 l (2.11 US gal)	
Front right fuel tank, approx.		
Super unleaded (ROZ 95) (p. 165)	8.0 (2.11 US gal)	
Rear fuel tank, approx.		
Super unleaded (ROZ 95) (p. 165)	14.0 l (3.7 US gal)	
Total fuel tank capacity, approx.		
Super unleaded (ROZ 95) (🕮 p. 165)	30.0 l (7.93 US gal)	

23.4 Chassis

Frame	Lattice frame of chromium-molybdenum steel tubes, powder-coated	
Suspension travel		
front	305 mm (12.01 in)	
rear	300 mm (11.81 in)	
Brake system	Disc brakes, floating brake calipers	
Brake discs - diameter		
front	300 mm (11.81 in)	
rear	240 mm (9.45 in)	
Brake discs - wear limit		
front	3.6 mm (0.142 in)	
rear	3.5 mm (0.138 in)	
Street tire pressure		
front	2.0 bar (29 psi)	
rear	2.0 bar (29 psi)	
Offroad tire pressure		
front	1.0 1.5 bar (15 22 psi)	
rear	1.0 1.5 bar (15 22 psi)	
Secondary drive ratio	14:51	
Rear sprockets available	50, 51, 52	
Chain	5/8 x 1/4"	
Wheelbase	1,520 ± 10 mm (59.84 ± 0.39 in)	
Steering head angle	62.5°	
Seat height unloaded	960 mm (37.8 in)	
Ground clearance unloaded	280 mm (11.02 in)	

Ready-to-ride weight approx.	140 kg (309 lb.)
Maximum permissible front axle load	161.5 kg (356 lb.)
Maximum permissible rear axle load	173.5 kg (382.5 lb.)
Maximum permissible overall weight	335 kg (739 lb.)

23.5 Electrical system

Lithium-ion battery	Battery voltage: 13.2 V Nominal capacity: 4.6 Ah Maintenance-free		
Fuse	58011109105	5 A	
Fuse	58011109110	10 A	
Fuse	58011109115	15 A	
Fuse	58011109130	30 A	
High beam	LED	LED	
Low beam	LED	LED	
Position light	LED	LED	
Indicator lamps	W1.2W / socket W2x4.6d	W1.2W / socket W2x4.6d 12 V 1.2 W	
Turn signal	RY10W / socket BAU15s	RY10W / socket BAU15s 12 V 10 W	
Brake / tail light	LED	LED	
License plate lamp	LED	LED	

23.6 Tires

Front tire	Rear tire
90/90 - 21 M/C 54S M+S TT	140/80 - 18 M/C 70R M+S TT
Continental TKC 80	Continental TKC 80

The tires specified represent one of the possible series production tires. For alternative manufacturers, if any, contact an authorized dealer or qualified tire dealership. If local road approval regulations apply, these and the respective technical specifications must be observed. Additional information is available in the Service section under:

KTM.COM

23.7 Fork

Fork article number	14.18.2S.40
Fork	WP XPLOR PRO 7548
Compression damping	
Standard	15 clicks
Rebound damping	
Standard	15 clicks
Spring length with preload spacer(s)	488 mm (19.21 in)
Spring rate	
Weight of rider: 55 65 kg (121 143 lb.)	4.6 N/mm (26.3 lb/in)
Weight of rider: 65 75 kg (143 165 lb.)	4.8 N/mm (27.4 lb/in)
Weight of rider: 75 85 kg (165 187 lb.)	5.0 N/mm (28.6 lb/in)
Weight of rider: 85 95 kg (187 209 lb.)	5.2 N/mm (29.7 lb/in)

Weight of rider: ≥ 95 kg (≥ 209 lb.)	5.4 N/mm (30.8 lb/in)
Fork length	950 mm (37.4 in)

Oil capacity fork leg without cartridge	445 ml (15.05 fl. oz.)	Fork oil (SAE 4) (48601166S1) (🕮 p. 165)
Oil capacity per cartridge		Fork oil (SAE 4) (48601166S1) (@ p. 165)

23.8 Shock absorber

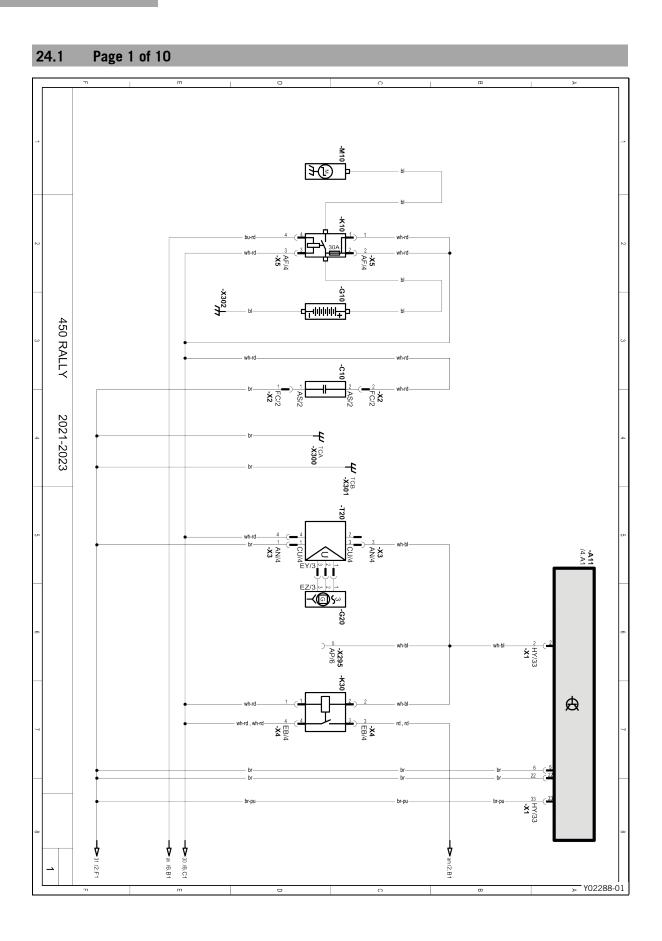
Shock absorber article number	18.18.0S.40
Shock absorber	WP XPLOR PRO 7750
Low-speed compression damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks
High-speed compression damping	
Comfort	45 clicks
Standard	40 clicks
Sport	30 clicks
Rebound damping	
Comfort	24 clicks
Standard	20 clicks
Sport	16 clicks
Spring preload	
Standard	11 mm
Spring rate	
Weight of rider: ≤ 65 kg (≤ 143 lb.)	48 N/mm (274 lb/in)
Weight of rider: 65 75 kg (143 165 lb.)	51 N/mm (291 lb/in)
Weight of rider: 75 85 kg (165 187 lb.)	54 N/mm (308 lb/in)
Weight of rider: 85 95 kg (187 209 lb.)	57 N/mm (325 lb/in)
Weight of rider: ≥ 95 kg (≥ 209 lb.)	60 N/mm (343 lb/in)
Spring length	260 mm (10.24 in)
Gas pressure	8 bar (116 psi)
Static sag	40 mm (1.57 in)
Riding sag	105 mm (4.13 in)
Fitted length	474 mm (18.66 in)

Shock absorber oil	Shock absorber fluid (SAE 2.5)
	(50180751S1) (🕮 p. 165)

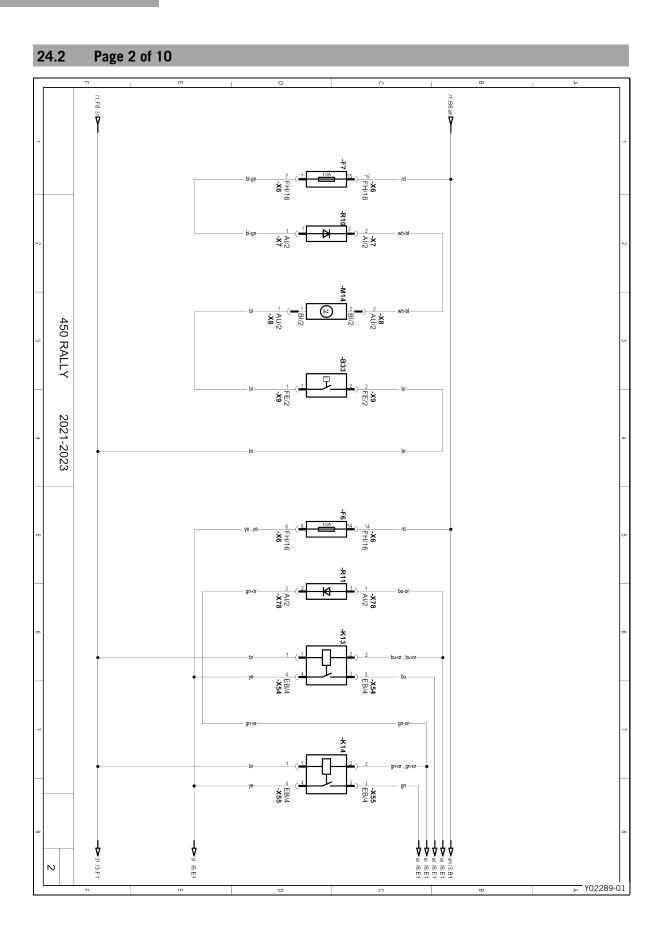
23.9 **Chassis tightening torques**

Screw, combination instrument	EJOT PT K45x12	2 Nm (1.5 lbf ft)
Screw, license plate holder, bot-	EJOT	3 Nm (2.2 lbf ft)
tom		
Screw, license plate lamp	EJOT PT K50x18 T20	1.5 Nm (1.11 lbf ft)
Screw, tail light	EJOT PT K60x20	5 Nm (3.7 lbf ft)
Screw, throttle cable holder	EJOT PT K50x14	1.5 Nm (1.11 lbf ft)
Spoke nipple, front wheel	M4.5	5 6 Nm (3.7 4.4 lbf ft)
Remaining nuts, chassis	M5	5 Nm (3.7 lbf ft)
Remaining screws, chassis	M5	5 Nm (3.7 lbf ft)
Screw, additional tail light	M5	4 Nm (3 lbf ft)
Screw, brake line holder on bottom triple clamp	M5	2 Nm (1.5 lbf ft)
Screw, foot brake lever stub	M5	6 Nm (4.4 lbf ft)
		Loctite®243™
Screw, shock absorber adjusting ring	M5	5 Nm (3.7 lbf ft)
Spoke nipple, rear wheel	M5	5 6 Nm (3.7 4.4 lbf ft)
Nut, cable on 12-V battery	M6	5 Nm (3.7 lbf ft)
Nut, cable on starter motor	M6	10 Nm (7.4 lbf ft)
Remaining nuts, chassis	M6	10 Nm (7.4 lbf ft)
Remaining screws, chassis	M6	10 Nm (7.4 lbf ft)
Screw connection, foot brake cylinder	M6	10 Nm (7.4 lbf ft) Loctite®243™
Screw connection, voltage regulator	M6	8 Nm (5.9 lbf ft) Loctite®243™
Screw, cable on starter relay	M6	5 Nm (3.7 lbf ft)
Screw, chain sliding guard	M6	6 Nm (4.4 lbf ft)
		Loctite®243™
Screw, engine guard bracket on engine bearer	M6	15 Nm (11.1 lbf ft)
Screw, front brake disc	M6	14 Nm (10.3 lbf ft)
		Loctite®243™
Screw, radiator bracket, bottom	M6	5 Nm (3.7 lbf ft)
Screw, rear brake disc	M6	14 Nm (10.3 lbf ft) Loctite®243TM
Screw, road book	M6	8 Nm (5.9 lbf ft)
Screw, seat lock	M6	10 Nm (7.4 lbf ft)
Screw, seat lock Screw, sprocket protector	M6	10 Nm (7.4 lbf ft)
Screw, steering damper	M6	15 Nm (11.1 lbf ft)
Screw, steering damper bracket	M6	15 Nm (11.1 lbf ft)
Screw, throttle grip	M6	5 Nm (3.7 lbf ft)
Silentblock, air filter box	M6	2 Nm (1.5 lbf ft)
Nut, rear sprocket screw	M8	35 Nm (25.8 lbf ft)
Tivut, rear sprocket screw	IVIO	Loctite®243 TM
Nut, rim lock	M8	10 Nm (7.4 lbf ft)
Remaining nuts, chassis	M8	30 Nm (22.1 lbf ft)

Remaining screws, chassis	M8	25 Nm (18.4 lbf ft)	
	1		
Screw, bottom triple clamp	M8	17 Nm (12.5 lbf ft)	
Screw, chain sliding piece	M8	15 Nm (11.1 lbf ft)	
Screw, connection lever on frame	M8	30 Nm (22.1 lbf ft)	Loctite®243™
Screw, engine bearer on frame	M8	25 Nm (18.4 lbf ft)	200110 2 10
Serew, engine bearer on frame	WIG	25 11111 (10.4 151 11)	Loctite®243™
Screw, engine guard	M8	25 Nm (18.4 lbf ft)	
Screw, foot brake lever	M8	25 Nm (18.4 lbf ft)	
,		,	Loctite®243™
Screw, fork stub	M8	15 Nm (11.1 lbf ft)	
Screw, front brake caliper	M8	25 Nm (18.4 lbf ft)	
			Loctite®243™
Screw, front fuel tank	M8	8 Nm (5.9 lbf ft)	
Screw, front/rear of fuel tank	M8	16 Nm (11.8 lbf ft)	
Screw, fuel tank bracket	M8	15 Nm (11.1 lbf ft)	
Screw, GPS device bracket	M8	25 Nm (18.4 lbf ft)	
Screw, handlebar clamp	M8	20 Nm (14.8 lbf ft)	
Screw, license plate holder, top	M8	20 Nm (14.8 lbf ft)	
Screw, rear of fuel tank, top and	M8	8 Nm (5.9 lbf ft)	
bottom			Loctite®243™
Screw, steering stem, bottom	M8	20 Nm (14.8 lbf ft)	_
			Loctite®243™
Screw, top steering stem	M8	20 Nm (14.8 lbf ft)	L:
	MO	15 N (11 1 H (())	Loctite®243™
Screw, top triple clamp	M8	15 Nm (11.1 lbf ft)	
Fitting, engine mounting bracket	M10	60 Nm (44.3 lbf ft)	Loctite®243™
Fitting, rear fuel tank	M10	50 Nm (36.9 lbf ft)	LUCTILE 245
Titting, real fuel tank	WIIO	30 Mili (30.3 lbi it)	Loctite®243™
Fitting, shock absorber, bottom	M10	60 Nm (44.3 lbf ft)	
,		,	Loctite®243™
Fitting, shock absorber, top	M10	60 Nm (44.3 lbf ft)	
			Loctite®243™
Remaining nuts, chassis	M10	50 Nm (36.9 lbf ft)	
Remaining screws, chassis	M10	45 Nm (33.2 lbf ft)	
Screw, handlebar support	M10	45 Nm (33.2 lbf ft)	
			Loctite®243™
Screw, side stand	M10	35 Nm (25.8 lbf ft)	00 40 714
			Loctite®243™
Banjo bolt	M10x1	12 Nm (8.9 lbf ft)	
Nut, turn signal	M10x1.25	8 Nm (5.9 lbf ft)	
Nut, angle lever to link fork	M14x1.5	80 Nm (59 lbf ft)	
Nut, linkage lever on angle lever	M14x1.5	80 Nm (59 lbf ft)	
Nut, swingarm pivot	M16x1.5	100 Nm (73.8 lbf ft)	
Screw, top steering head	M20x1	12 Nm (8.9 lbf ft)	
Screw, front wheel spindle	M24x1.5	45 Nm (33.2 lbf ft)	
Nut, rear wheel spindle	M25x1.5	80 Nm (59 lbf ft)	



A11	Engine control unit
C10	Capacitor
G10	12-V battery
G20	Alternator
K10	Starter relay with main fuse
K30	Power relay
M10	Electric starter system
T20	Voltage regulator
X295	Diagnostics connector

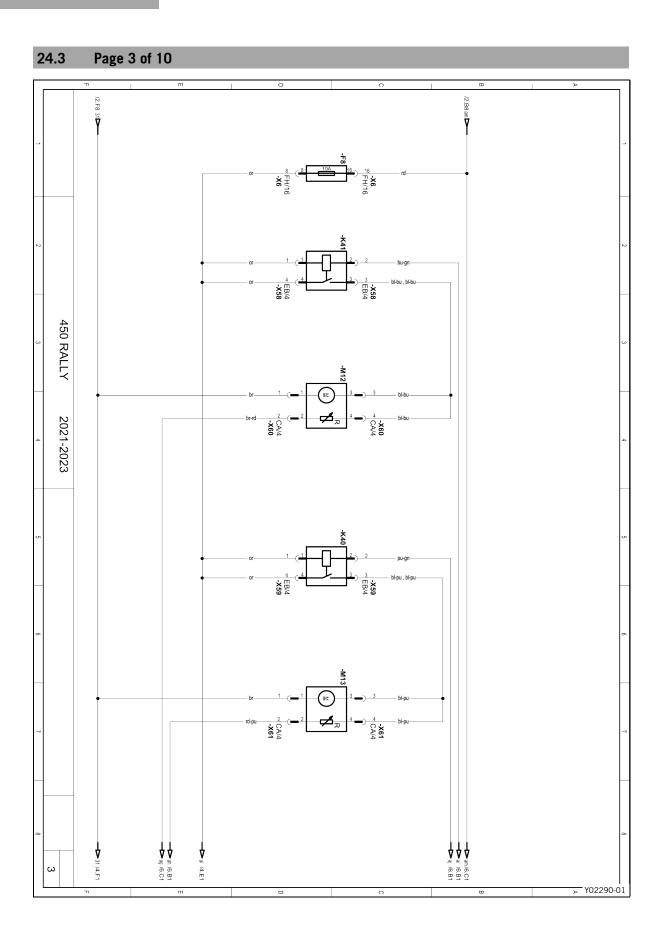


B33 Temperature switch

F6 Fuse F7 Fuse

K13 High beam relayK14 Low beam relayM14 Radiator fan

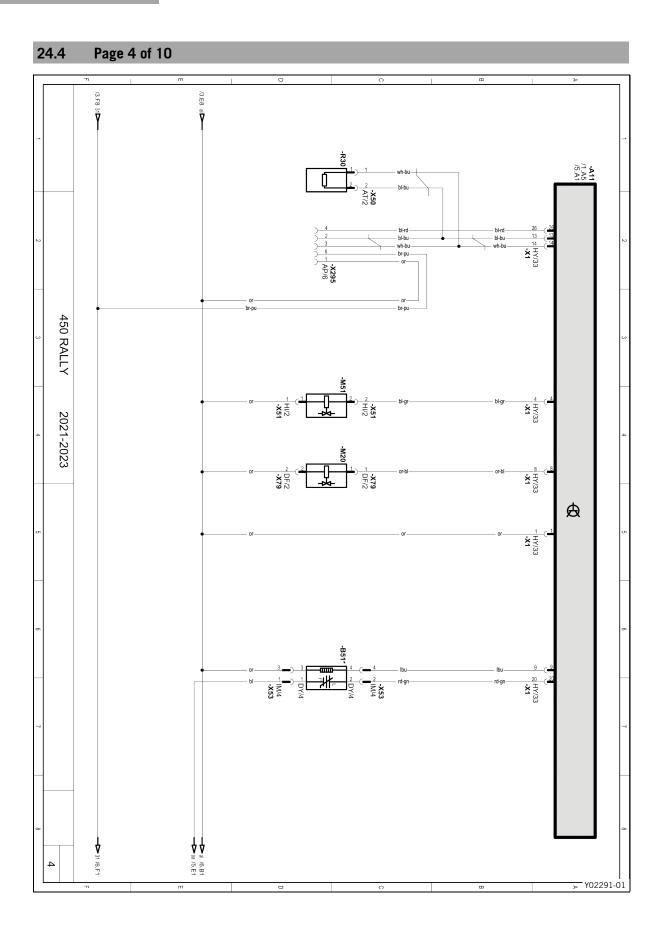
R10 Diode R11 Diode



F8 Fuse

K40 Relay for front fuel pumpK41 Relay for rear fuel pump

M12 Rear fuel pump M13 Front fuel pump



A11	Engine	control	unit

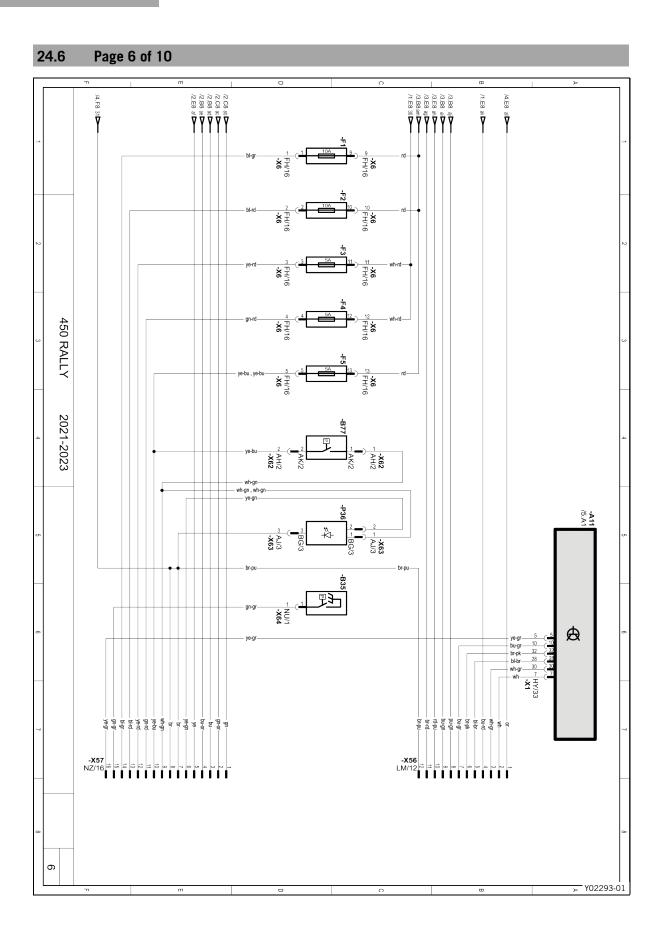
B51 Lambda sensor (if installed)

M20 Fuel vapor valveM51 Injection valve

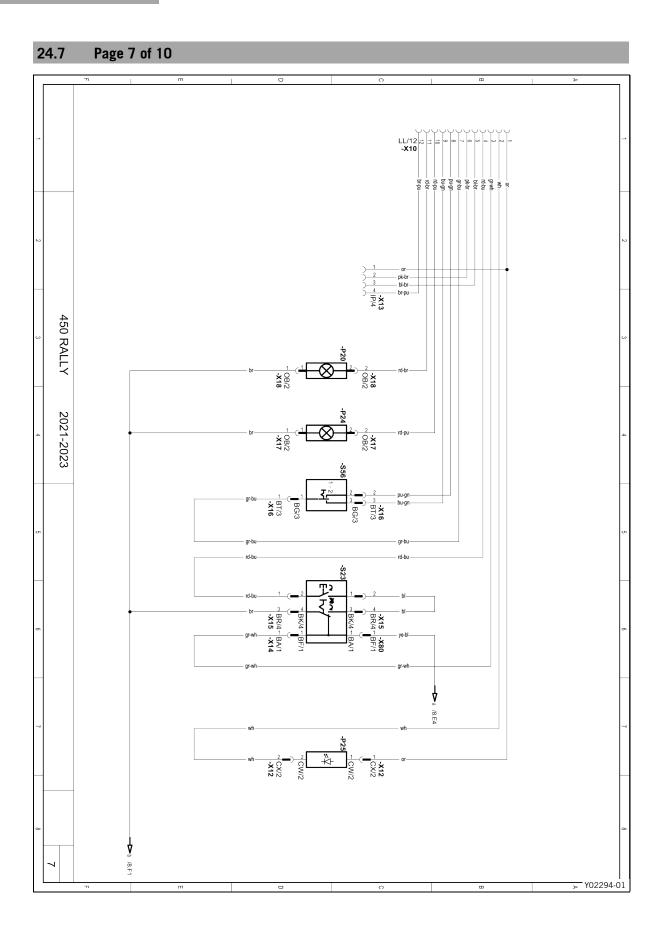
R30 CAN bus terminating resistor

X295 Diagnostics connector

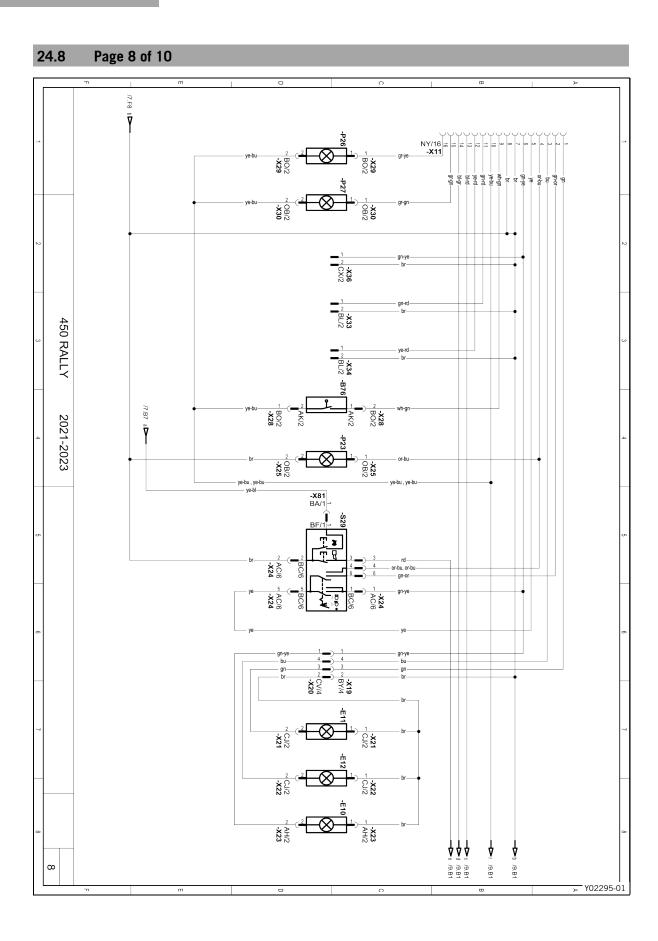
A11	Engine control unit
B12	Intake air temperature sensor
B21	Coolant temperature sensor
B26	Tilt sensor
B34	Gear position sensor
B37	Crankshaft speed sensor
B41	Induction manifold pressure sensor
B43	Throttle valve position sensor
R51	Ignition coil



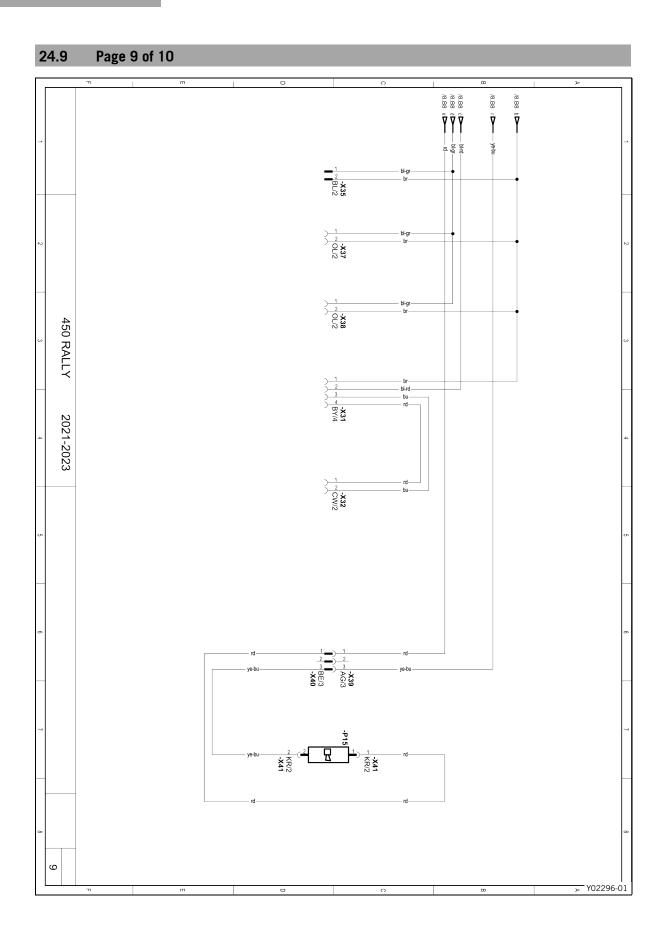
A11	Engine control unit
B35	Oil pressure sensor
B77	Rear brake light switch
F1	Fuse
F2	Fuse
F3	Fuse
F4	Fuse
F5	Fuse
P36	Brake/tail light



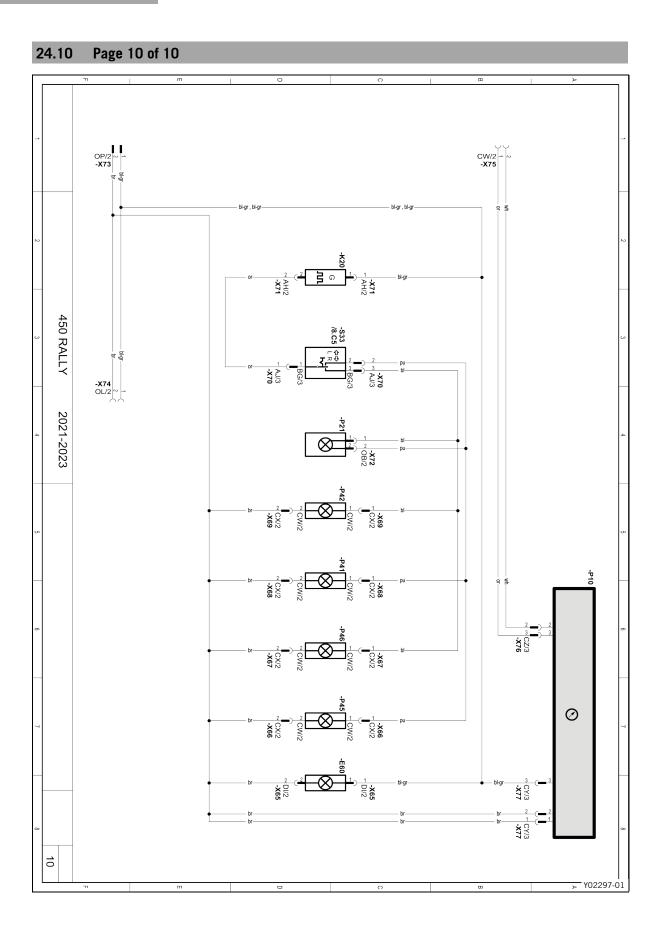
P20	Rear fuel level warning lamp
P24	Front fuel level warning lamp
P25	Malfunction indicator lamp
S34	Combination switch, right
S56	Fuel pump switch



B76	Front brake light switch
E11	Low beam
E12	High beam
P23	High beam indicator lamp
P26	Coolant temperature warning lamp
P27	Oil pressure warning lamp
E10	Position light
S33	Combination switch, left



P15 Horn



E60 License plate lamp K20 Turn signal relay P10 Combination instrument P21 Turn signal indicator lamp P41 Front left turn signal P42 Front right turn signal P45 Left rear turn signal P46 Rear right turn signal S33 Combination switch, left

Cable colors:

bl Black Brown br bu Blue Green gn gr Gray Light blue lbu Orange or Pink pk pu Violet Red rd White wh ye Yellow

Brake fluid DOT 4 / DOT 5.1

Standard/classification

DOT

Guideline

 Use only brake fluid that complies with the specified standard (see specifications on the container) and that exhibits the corresponding properties.

Recommended supplier

Castrol

REACT PERFORMANCE DOT 4

MOTOREX®

Brake Fluid DOT 5.1

Coolant

Guideline

- Only use high-grade, silicate-free coolant with corrosion inhibitor additive for aluminum motors. Low grade and unsuitable antifreeze causes corrosion, deposits and frothing.
- Do not use pure water as only coolant is able to meet the requirements needed in terms of corrosion protection and lubrication properties.
- Only use coolant that complies with the requirements stated (see specifications on the container) and that has the relevant properties.

Antifreeze protection to at least	-25 °C (-13 °F)
-----------------------------------	-----------------

The mixture ratio must be adjusted to the necessary antifreeze protection. Use distilled water if the coolant needs to be diluted.

The use of premixed coolant is recommended.

Observe the coolant manufacturer specifications for antifreeze protection, dilution and miscibility (compatibility) with other coolants.

Recommended supplier

MOTOREX®

COOLANT M3.0

Engine oil (SAE 10W/50)

Standard/classification

Guideline

 Use only engine oils that comply with the specified standards (see specifications on the container) and that possess the corresponding properties.

Fully synthetic engine oil

Recommended supplier

MOTOREX®

Cross Power 4T

Fork oil (SAE 4) (48601166S1)

Standard/classification

- SAE (🕮 p. 168) (SAE 4)

Guideline

 Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Shock absorber fluid (SAE 2.5) (50180751S1)

Standard/classification

SAE (IP p. 168) (SAE 2.5)

Guideline

 Use only oils that comply with the specified standards (see specifications on the container) and that exhibit the corresponding properties.

Super unleaded (ROZ 95)

Standard/classification

DIN EN 228 (ROZ 95)

Guideline

- Only use super unleaded fuel that matches or is equivalent to the specified standard.
- Fuel with an ethanol content of up to 10% (E10 fuel) is safe to use.



Info

Do **not** use fuel containing methanol (e.g., M15, M85, M100) or more than 10% ethanol (e.g., E15, E25, E85, E100).

Air filter cleaner

Recommended supplier MOTOREX®

- Racing Bio Dirt Remover

Chain cleaner

Recommended supplier MOTOREX®

Chain Clean

High viscosity grease

Recommended supplier SKF®

– LGHB 2

Long-life grease

Recommended supplier MOTOREX®

Bike Grease 2000

Off-road chain spray

Recommended supplier MOTOREX®

Chainlube Offroad

Oil for foam air filter

Recommended supplier MOTOREX®

Racing Bio Liquid Power

Preserving materials for paints, metal and rubber

Recommended supplier MOTOREX®

Moto Protect

Rubber grip adhesive (00062030051)

Recommended supplier KTM AG

GRIP GLUE

Silicone spray

Recommended supplier MOTOREX®

Silicone Spray

Universal oil spray

Recommended supplier MOTOREX®

- Joker 440 Synthetic

JASO T903 MA2

Different technical development directions required a separate specification for motorcycles – the **JASO T903 MA2** standard.

Earlier, engine oils from the automobile industry were used for motorcycles because there was no separate motorcycle specification.

Whereas long service intervals are demanded for automobile engines, the focus for motorcycle engines is on high performance at high engine speeds.

In most motorcycle engines, the transmission and clutch are lubricated with the same oil.

The JASO T903 MA2 standard meets these special requirements.

SAE

The SAE viscosity classes were defined by the Society of Automotive Engineers and are used for classifying oils according to their viscosity. The viscosity describes only one property of oil and says nothing about quality.

OBD	On-board diagnosis	Vehicle system, which monitors the specified parame-
		ters of the vehicle electronics

Art. no.	Article number
ca.	circa
cf.	compare
e.g.	for example
etc.	et cetera
i.a.	inter alia
no.	number
poss.	possibly

30.1 Red symbols

Red symbols indicate an error condition that requires immediate intervention.

The oil pressure warning lamp lights up red – The oil pressure is too low. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.
The coolant temperature warning lamp lights up red – The coolant temperature is too high. Stop immediately, taking care not to endanger yourself or other road users in the process, and switch off the engine.

30.2 Yellow and orange symbols

Yellow and orange symbols indicate an error condition that requires prompt intervention. Active driving aids are also represented by yellow or orange symbols.

Left fuel level warning lamp lights up orange – The fuel level of the two front fuel tanks has reached the reserve mark.
Malfunction indicator lamp lights up/flashes yellow – The OBD has detected a malfunction in the vehicle electronics. Come safely to a halt, and contact an authorized KTM workshop.

30.3 Green and blue symbols

Green and blue symbols reflect information.

(+ + +)	Turn signal indicator lamp flashes green – The turn signal is switched on.
	The high beam indicator lamp lights up blue – The high beam is switched on.

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